

# KANSAS FARMER

For the improvement



of the Farm and Home

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**T**HIS picture is not overdrawn. Less than two weeks ago, when the temperature was ten below zero, and a storm was raging, cows and young cattle were seen on rich Kaw Valley farms, grubbing in the stalk fields for feed.

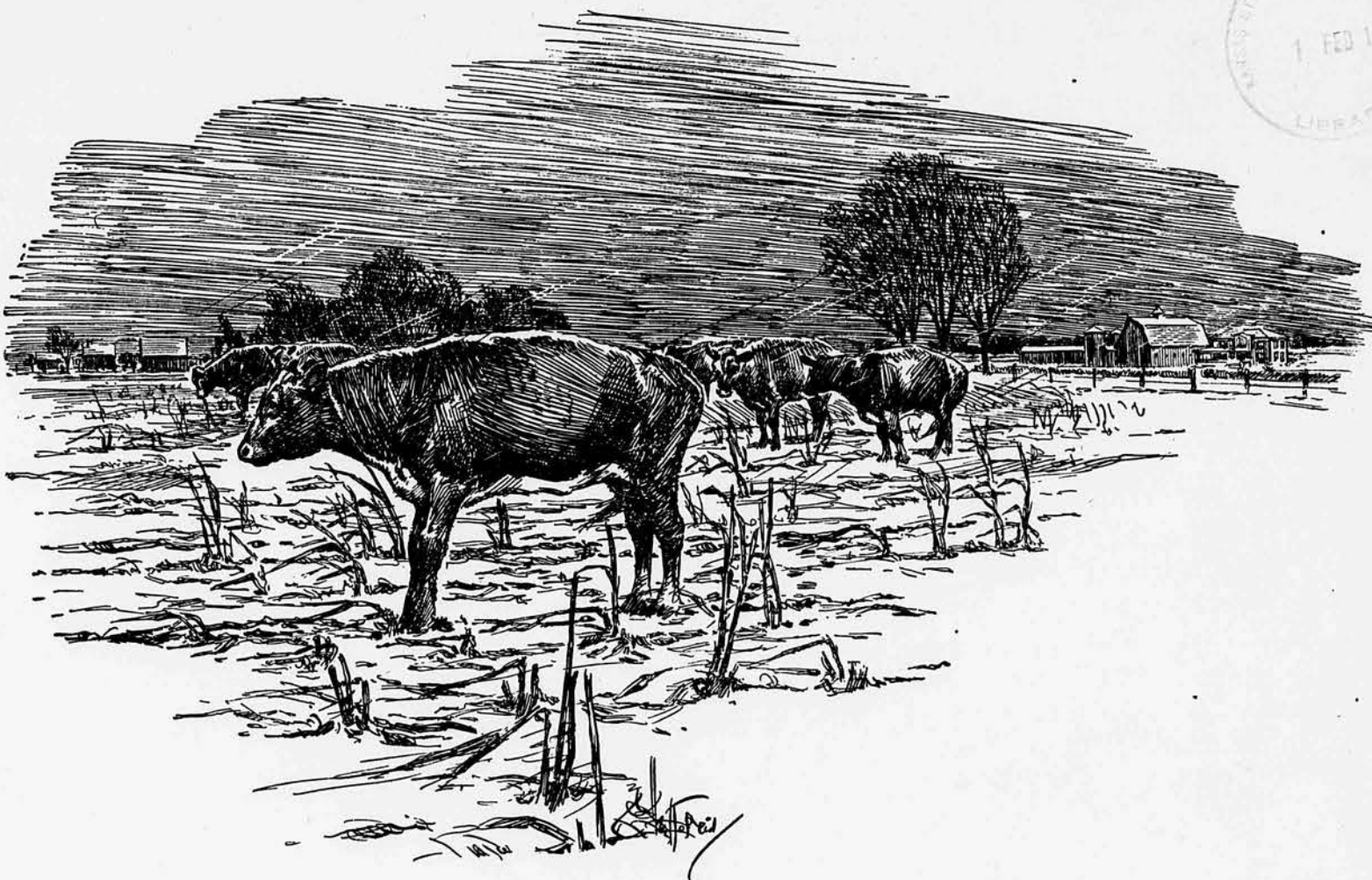
It is not only cruelty to animals, but a heavy drain on future profits, to compel cattle to forage for feed in such weather. It will take two weeks of good feeding to recover the loss of one day under such conditions.

Contrast this with the farm having the crop stored in the silo. Here the cattle eat their fill, sheltered in barns or sheds. The feed consumed is palatable and nutritious, and is used for production instead of for keeping up body heat.

The fodder alone, in the silo, is worth \$15 to \$18 an acre, and the grain is as valuable as when husked and stored in the crib. Stalk fields are worth not to exceed fifty cents an acre.

After contrasting these two conditions, is it a wonder that those who have used silage a few years, speak so highly of its value? The growing live stock, who has no silo, is missing one of the big opportunities.

—G. C. W.



*Which is More Profitable—Allowing Cattle to Starve in the Stalk Field, or Letting Them Eat Their Fill in the Barn?*



**This is the New 3400 r.p.m. Chalmers; 45 H.P.; 2660 Pounds—the Price \$1050**

600 merchants, who sell a great many thousand cars every year, took one look at this new 3400 r. p. m. Chalmers and bought \$22,000,000 worth in forty minutes.

Perhaps half of them came from county-seat towns, some from smaller communities. They took almost half the Chalmers output.

That means about 10,000 of the new 3400 r. p. m. Chalmers are going on the farm.

The other half will go to the cities, which for eight years have absorbed the greater share of Chalmers production.

You can stand on Fifth Avenue any day and watch a million dollars' worth of Chalmers go by. Stand on Jackson and Michigan Boulevards, Chicago, and you will think half the city is riding to work in Chalmers.

Minneapolis, Boston, St. Louis, Kansas City, San Francisco, Cleveland Detroit, daily show the Chalmers conquest.

Now comes this new 3400 r. p. m. Chalmers; up goes the demand, new buildings, production. And down comes the price to \$1050.

That is \$300 less than any Chalmers model ever built before, and some \$900 less than the Chalmers of three years ago.

The hundreds of Chalmers dealers who sell a great many cars to farmers every year have bought more than \$10,000,000 worth of these

new cars because \$300 saved is \$300 earned, and \$300 is six per cent. on \$5000.

They bought so heavily because they knew, as good merchants, that this was a good-sense kind of a car for a farmer to drive. It develops 45 horse-power at the usual cost of 25 H. P. (And gasoline isn't getting any lower).

The engine is rather small beside the big hulk of an engine it used to take to turn up 45 horse-power. The cylinders are  $3\frac{1}{4} \times 4\frac{1}{2}$ —six of them. But they deliver the stiffest wallop that ever came out of an engine of its size. It "turns over" 3400 revolutions per minute, or better than 56 a second.

You understand the "kick" that is back of speed. Some cars do 1400. Some 1800. Some 2200. Others 2400. One or two get around 2600; one reaches 3000 r. p. m.

But this is the highest engine speed ever developed in an American stock car.

It means great power from a small engine; a light-weight chassis; quick acceleration; long mileage on gas; abnormal tire life; and ability to pass your neighbor almost at will.

One minute with your foot on the accelerator makes you want to own the car.

When you go to town again look up the Chalmers dealer; and send for a catalog now.

\$1050 f. o. b. Detroit

Chalmers Motor Company, Detroit, Mich.



**Quality First**



# KANSAS FARMER

The Standard Farm Paper of Kansas

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## JOSEPH E. WING MEMORIAL.

When Joseph E. Wing died last September, the suggestion was made to the Breeders' Gazette, that a memorial fund be raised by popular subscription. Mrs. Wing was consulted and she opposed the idea of making an appeal or request for such funds, but did consent to permit the Breeders' Gazette making an announcement that they would receive funds for this purpose. As a result of this simple announcement, nearly 400 contributions have been received, representing 38 different states and two foreign countries, the amount raised being \$1,500.

Following this a committee was appointed to decide as to the character of the memorial. Mrs. Wing was again consulted. She opposed the idea of a monument or other material memorial. It was finally decided that the money should be used to provide lectures on agriculture at one or more of the state agricultural colleges each year, to be known as the "Joseph E. Wing Memorial Fund Lectures."

This is a splendid idea and is in keeping with the life of service which Mr. Wing lived. It is the plan of the committee to have these lectures given by men of national reputation, during the Farmers' Week at the various colleges, or at such other times as farmers are in attendance at these institutions.

The lectures will be given at different institutions from year to year so the benefits will not be confined to any one state or locality.

Now that so appropriate an idea has been worked out, there are hundreds and possibly thousands of Mr. Wing's admirers who would like to contribute to the fund. With this thought the committee has decided to leave the list open until April 1. It is not the thought that any one will contribute a large sum, but rather that there may be a large number of contributors of small amounts who wish to thus express their appreciation of Mr. Wing's work. If any desire to make such contributions they can be sent to the chairman of the committee, H. C. Price, Newark, Ohio.

## NATIONAL SWINE SHOW.

For the past two years the National Swine Growers' Association has been ambitious to hold a hog show that would be national in character. Attempts have been made to hold such shows of breeding hogs at the Royal and the International, but they have not met with any great success.

At the recent meeting of this association held in Chicago, it was definitely decided to hold a show the coming year. The record associations of five of the leading breeds pledged \$2,000 each, making a fund of \$10,000 as a starter. Other associations will probably contribute. A committee representing the different breeds is now looking for the most suitable place to hold this show. They are desirous of holding it as an independent exposition, but if this should be impossible they will probably cooperate with some fair that is already well organized. A number of cities are contestants for this national hog show, among them, Topeka, which city is now presenting its many advantages. Nothing short of some unforeseen quarantine regulation can now prevent the holding of this hog show some time next October.

## MAKE SON PARTNER.

It takes a good many years to establish a creditable herd of pure-bred live stock. A man with plenty of money can of course assemble a herd of pure-bred animals in a short time, but it requires years of study and experience to become a really constructive breeder and improver of live stock.

There is too little passing on from father to son of the accumulated skill in breeding live stock. Many a breeder who has through his own energy and ability built up a high class herd must dispose of it to the four winds in his old age, because his sons have taken no interest in the business. Many conspicuous examples might be named where this has taken place. In this country there does not seem to be the family pride in the business of breeding pure-

bred live stock, that exists in England, for example.

We believe that if we are to make greater progress in live stock improvement, every effort possible should be made to interest the sons in the business early in life. The boy who has during his childhood and early manhood, assisted in the work of breeding pure-bred stock, and has had the highest ideals in live stock kept before him, is the one most competent to continue the business and bring about further development. The son who succeeds his father in the business stands a much better chance of making financial success than if he should start anew in some different line. It has been stated that a much smaller per cent of the young people who grow up on high class live stock farms, leave the farm for city life, than of those who grow up on farms

where inferior live stock is kept. This is an indication of the influence of high class live stock in holding young people on the farm.

The breeder who would encourage and foster this influence cannot do better than take his son or sons into partnership as early in life as possible. There is nothing that will arouse the interest of the boy more than to be given definite responsibilities in connection with the handling of the herd. It is a good idea to incorporate his name in the advertising and on the letter head. It is not to be expected that the advice and judgment of the boy should always be taken in connection with the handling of the animals, but it is worth a great deal in holding his interest, to have him feel that he is being consulted and nothing is being done without considering him.

## SILO PROVES ITS VALUE

NOT over five per cent of the farms of Kansas are equipped with silos. A large proportion of those in use were put up to meet the emergency of short feed crops. In the dry year of 1913 many a silo was filled with a poor, immature crop that would have been worthless if left in the field, but as silage it was of sufficient feed value to make unnecessary the sacrificing of the stock. A good many people in Kansas who have silos did not learn for several years what really good silage is. A means of feed preservation that will make such worthless stuff as was grown in these dry years, return hundreds of dollars in value, cannot help being a valuable means of preserving a good crop.

We have never gathered more convincing, personal, experiences with silos and silage issue. These men who what the silo has no selfish interests to simply telling our has made it possible value from the crop

Getting a larger grown is a much more creasing profits than land so as to have a ate.. There is no get- that the silo increases the live stock capacity of any farm. More live stock on a given number of acres means a larger business—a greater opportunity for the farm owner to realize a good labor wage the year round.

Silage is a cheap feed. The men who have proven it out on their farms, give their figures on its cost, and the average covering a period of years does not exceed two dollars a ton. Many who use kafir and cane, grew and stored the crop in the silo for considerably less than two dollars a ton last season.

Silage is worth from four to six dollars a ton, say these same men. They know, because they have kept account of the results they have secured in increased milk, butter fat, beef, or other live stock products. What further evidence could the doubter ask?

But with all its advantages, silage is not a cure-all. It is a roughage feed. The fodder that goes in is not changed to a concentrate feed. It will reduce the amount of grain required quite materially because of its palatability and digestibility, but cannot be considered a substitute for grain. A source of profit that has been getting away on many a farm is that locked up in the rough feed. Almost any one can sell grain, but all this other material represents cost in labor and soil fertility. If an acre of corn produces thirty bushels of grain, it is easy to figure what this grain is worth. It has an established value on the market. If corn is worth 60 cents a bushel, the thirty bushels can be hauled from the farm and sold for \$18. But how about the fodder upon which this corn grew? Can any one haul that away and get \$18 for it? It can be made to return such value, however, if preserved in the silo and judiciously fed to good stock, and there are years in which fodder is the big end of the crop. When no grain is produced, the man without the silo must lose a large proportion of what it cost him to grow the crop. Here is where the silo gets in its work, and best of all, the fertility value of the crop is retained and can be returned to the soil.

On the farm where there is plenty of good roughage stored, including silage, purchased feeds such as cottonseed meal can be profitably fed, and every ton of such feed brought to the farm, in addition to giving good returns as feed, brings its store of fertility. The farm stocked to its fullest capacity, with a silo to utilize every particle of fodder grown, and so managed that concentrate feeds can be profitably purchased, is bound to increase in fertility and productive power.

The cost of the silo and machinery may seem high, but an investment that brings such good returns is not a losing one by any means. Money put into a silo will be more productive than almost any other investment that might be made. Silo users have proven this, as is shown by the many letters from those who know whereof they speak.



return from crops logical means of in- the buying of more larger farm to oper- ting around the fact

More live stock on a given number of acres means a larger business—a greater opportunity for the farm owner to realize a good labor wage the year round.

## WARNING AGAINST CULL COWS.

A few weeks ago we commented editorially on the warning to Kansas cow buyers given by the members of the State Dairy Association in session at Manhattan. This danger has been considered serious enough to warrant investigation by the extension division of the agricultural college, and a warning letter has been sent out to farm bureau members, farmers' institute officers and members, and others known to be interested in dairying.

In view of the greatly increasing interest in dairying and the demand for cows of dairy breeding, opportunity is offered for irresponsible or dishonest dealers to enrich themselves by purchasing the low grade and discarded dairy stock in other states and selling it to our Kansas men as good dairy stock at a big advance in price.

In dairy communities there will always be a big culling of the herds, and these poor individuals most assuredly cannot help to advance the dairy interests of Kansas. In this letter that is being sent out, Kansas buyers are urged to study closely the individuality of the cows they purchase, looking especially to the health of the animals offered. It is suggested that those who are not good judges of dairy cattle should secure the assistance of some neighboring dairyman, or in counties where an agricultural agent is located, get this agent to assist in selecting the cows.

We believe this is a timely warning. Dairy cows purchased in stock yards in other states should always be looked upon with suspicion, and even when purchased of breeders on farms where grown, it is the part of wisdom to look not only to the cattle but learn something of the reliability of the man who has grown them.

## LIVE STOCK ASSOCIATION PROGRAM

The Kansas Live Stock Association is one of the strong organizations of our state. Its third annual convention will be held in Wichita, February 8, 9 and 10. Live stock farming is increasing and stock men have many problems in their business that must be worked out through the agency of such an organization. This association has been in existence for twenty years, but up to 1913 its membership was small. It now enrolls a thousand and there were three thousand registered at the annual meeting a year ago. W. J. Tod of Maple Hill, is president, and J. H. Mercer, secretary. The association has established permanent headquarters in Wichita.

We believe this organization can accomplish a great deal that will be helpful to every man in the state having anything to do with live stock production.

The program for the coming meeting is an especially strong one and has upon it the names of many men of national reputation.

## INCOME TAX AND FARM ACCOUNTS.

The requirements of the national income tax law practically compels the keeping of accounts. Some of our rich farmers who do not keep accounts may have to pay more than they should because unable to prove exactly what their income is. Some who had never kept accounts before have been doing so the past year or so in order to make out the necessary statements to the internal revenue collectors.

Farmers whose incomes exceed \$3,000 annually, certainly should have some system of farm accounts, and we have heard that some of those who began bookkeeping under compulsion are well pleased with the results. It has been a profitable undertaking to them because it has led to better business methods. Many costly mistakes are being made continually, and those who do not keep accounts are unable to locate the leaks.

Actual tests on the Indianapolis speedway show that a set of tires which ran 5,000 miles at a nominal speed of about forty miles an hour, only lasted two or three hundred miles when the car was run at the rate of eighty-five miles an hour.

# SILAGE

# STANDS TEST

*Those Who Have  
Used Silage Long-  
est are the Loudest  
in Praise of its Use*

*Silo Users Report  
Their Experiences  
in Feeding Silage  
to Farm Stock*



CATTLE BEING WINTERED ON SILAGE AND WHEAT STRAW.—THE SILO WILL MAKE IT POSSIBLE FOR CATTLE PRODUCTION TO AGAIN BECOME THE CHIEF INDUSTRY OF THE PLAINS REGION

**W**E have been feeding silage for eight or nine years with best of results. We have had no spoiled silage. We consider corn, kafir, and cane of equal value as silage crops. We have a little preference for corn, but this is more a question of which will make the greatest tonnage in the particular section.

The main thing which must be proven to the man who has never fed silage, is that it is really as good a feed as is claimed by those using it. We are convinced it is all this, and more.

We have kept accurate records of yield and cost. Figuring a 16x40 silo holds 200 tons, it will require from 10 acres of heavy corn or kafir to 30 acres. Perhaps a better way to state this is that with corn making 50 bushels or kafir making 40 bushels, it will require 10 to 12 acres to fill the silo. Corn yielding 30 bushels an acre will require 20 acres, and when you get down to corn yielding 15 to 20 bushels an acre, 25 or 30 acres will be required. It is an invariable rule that corn or kafir yielding 50 bushels an acre will have a large growth of stalks. Anyone can readily figure the cost of silage per ton, made from corn yielding 50 bushels an acre: 12 acres, 600 bushels; 60 cents, \$360; 200 tons, \$1.80 per ton. Thirty-bushel corn will require 20 acres, same number of bushels—600—cost \$1.80 per ton.

Many figures for filling are, too high. All cost over 60 cents a ton is chargeable to poor outfit, cutter or crew. If any man having a 16x32 silo cannot fill it before night, there is something wrong and he should look for the trouble. The binder should always be kept well ahead so it is not necessary to wait on the corn or kafir wagons. We always cut the day before we are ready to fill—sometimes longer ahead. There is no danger from rain, for if it is a little wet it is all the better.

Now, let us figure a little for the one who says "can't." When hauling one-half mile from far end of field one team can easily haul 15 loads a day—3,000 pounds to load, as nearly all time spent is going and coming. If farther, just add one team, or two. The cost is only \$6 for one day and this is not much per ton. We do not hesitate to haul two miles with 10 teams. It requires only about five minutes to put a load through the cutter; even at 20 tons per team, with seven teams we have 140 tons in the silo. If one tried to put up hay at this rate he would need some force. And hay comes out shrunken in weight almost one-half, while silage does not.

My reply to anyone who complains about the cost of filling the silo, is that if he is not putting up 100 to 150 tons a day, something is wrong and he had better find the trouble. This stumbling block causes many to put off building silos.

In 1914 we put up over 500 tons from 42 acres. We hired a steam rig. It took us 36 hours and the cost for the engine was \$1 an hour. An hour and a half of this time was spent in a mudhole trying to get the machine set; we set three times for three silos. The cost was as

follows: Seven wagons at a cost of \$3 a day, for four days, \$84; 3 men at \$2 a day, for loading, \$24; 2 men in silo at \$2 a day, \$16; engine and cutter \$1 an hour each, \$72; total, \$196, or a ton cost of less than 40 cents. For our own teams and help we charged \$10, and \$10 for coal. It was necessary to furnish dinners only to the crew.

We did not make a charge for cutting with binder, because if we had cut for fodder instead of for putting into the silo, we would have been obliged to cut twice as many acres.

Let me repeat that a good cutter is half the battle. We put up the 500 tons with no stops and only 75 cents worth of repairs, after having cut more than 2,000 tons.

All the stock on our farms is fed silage. Little calves are very fond of it. Our horses have lived on it in the winter for the past five seasons.

We consider a ton of good silage of the same value as a ton of good hay. It requires three tons of silage to feed a cow six months, and it requires the same amount of hay. If using only feed grown on farm, silage with a little alfalfa hay makes great feed or, silage with a little oats. If oil meal or cotton cake is used with the silage, this is a strong enough feed for stock or breeding cows, heifers, or calves, but if feeding for the beef market, a little extra corn chop pays as the finishing period arrives. All our show cattle have been fed in this way for the past six years, and most people would call them in good order. There is nothing better for sale cattle, and breeding cows seldom have trouble at calving time if fed in this way.

To sum up the silage proposition—this feed saves one-half the cost, and every acre of corn put through the silo has double the value saved in any other way, and this can be proven. Good silage is worth from \$4 to \$10, according to the price of hay, and never costs over \$2.50 to \$3 per ton. Corn in the field, yielding 50 bushels an acre, is worth \$30; this fed as silage is worth more than \$60.

A few facts which were sent home to us this fall, might be of interest. Being short on silage we decided not to open the silo until January 1, in order to have enough to feed the balance of the winter. We fed in the old way, using 10 bushels a day of ground feed, and one ton of hay, and the boys fussed all the time about the extra work. For the month of December our feed bill was \$15 a day. Since the first of January we have fed one ton of silage a day, cost, \$3, worth \$6; 500 pounds of hay, \$1.50; 100 pounds bran, \$1; one bushel chop, 75 cents; total, \$9.25, or \$6.25 if the silage is valued at \$3 a ton. The cattle will do just as well as before and we are saving the grinding and the distribution of 10 bushels of corn a day. These figures look so good that I hesitate to tell about them to those who are not familiar with the feeding of silage.

In Osborne County Mr. Noffsinger filled his 16x52 silo from 11 acres of kafir and it surely made fine silage.

After using it awhile he said he did not see how he did without it. His silage was very low-priced, not to exceed \$300 worth of kafir in his silo, and the filling and all cost only about \$1.50 to \$1.75 a ton.—C. S. NEVIUS, Miami County.

## More Good Gains.

R. A. Galbraith of Morris County, became inoculated with the silo germ while attending the cattle feeders' meeting at Manhattan in April, 1913. He was much impressed with the results secured in wintering the calves at the experiment station that season, and went home with the determination to have a silo. In writing of the results he has secured in feeding silage, he says:

"I built a 280-ton silo in 1913. It took 40 acres to fill it. Having no cattle to feed that winter I sold it for \$6 a ton. In 1914 I filled this silo with 28 acres of Orange cane at a cost of 90 cents a ton for the filling. This included all labor and I counted my own teams at the same price as was paid for those hired. The cost of growing the crop, including rent of land and all labor, was 70 cents a ton. This crop went into the silo with the grain well matured and came out in very fine condition. I fed it to 120 good quality yearling steers and 100 head of two-year-old steers. The yearlings were fed a pound of cottonseed meal daily and about three pounds daily of poor quality alfalfa. They made an average gain of 100 pounds for the winter, and considering that they were dehorned during this period, and had the pink-eye, this was a good gain. The two-year-old steers were fed a pound and a half of cottonseed meal and about 5 pounds daily of poor quality alfalfa. They gained at the rate of one pound a day from January 14 until grass came. Both the yearlings and two-year-olds were pastured the summer of 1915. The yearlings gained 218 pounds each, and the two-year-olds 190 pounds. I sold 40 of the heaviest of the two-year-old steer in August. If these had not been shipped, the average gain for the two-year-olds for the whole season would probably have been at least 225 pounds each.

"In the same pasture with these cattle were a neighbor's cattle that had been fed fodder, straw, and other roughage through the winter. One bunch of 32 head of two-year-olds gained on grass, an average of 275 pounds. Another bunch of 98 head of similar quality and weight as my cattle that had been fed silage, made an average gain of 240 pounds. The silage fed cattle probably had enough more 'fill' when weighed into the pasture May 1, to have made their gain in real flesh equal to that of the fodder fed cattle.

"I filled my silo October, 1915, with 20 acres of Orange cane and 8 acres of kafir, the cost of filling amounting to 69 cents a ton; the cost of growing the crop, including land rent and all other items of expense, amounted to 70 cents a ton. The crop going into the silo varied in condition all the way from just right as to moisture, to quite dry. While filling, we ran a one-inch stream of water into the silo all the time, and part of the time

had a three-quarter-inch stream going into the blower. We began feeding 118 head of two-year-old steers and 71 head of three-year-olds, November 10, feeding an average of 33 pounds of silage daily, and 10 pounds daily of poor quality alfalfa. These cattle were weighed December 22, and showed a daily gain of 1.1 pounds a head.

"It is my opinion that calves and yearlings make the cheapest gains on silage, especially when a little cottonseed meal is used in the place of the poor quality alfalfa. I have fed cattle on rough feed for twenty years, but never in all this time so satisfactorily as since I have been using silage."

## Silage for Full-Fed Cattle.

C. L. King of Clark County is a wheat farmer but he has never given up handling cattle. Four years ago he built his first silo. He now has two silos of 180-ton capacity each. He usually full-feeds some cattle each year and has found that silage can be very successfully used in a fattening ration. His experience is of great value to others farming under similar circumstances:

"I filled one of my silos in October with cane. It took 20 acres to fill it. I estimated that after it had settled there was 160 tons. This would give a yield of eight tons an acre. I headed the balance of my cane crop, consisting of 100 acres, also 60 acres of feterita, and then put the butts in the second silo. The cane made five and one-half tons an acre, and the feterita three tons.

"October 6 I began feeding a bunch of three-year-old steers weighing an average of 1,170 pounds. They consumed 60 pounds of silage a day for the first 80 days, and in addition two pounds each of cottonseed meal. They gained during the period at the rate of two and one-sixth pounds a head daily. At the present time I am feeding 15 pounds of corn chop, 3 pounds of cottonseed meal, and 40 pounds of silage. I expect to soon increase the chop to 22 pounds a head daily, and reduce the silage to 30 pounds.

"I cannot give exact figures as to what it costs me to produce a ton of silage, nor what it is worth, but during the dry year of 1913 in feeding a small bunch of beef steers I figured that silage returned me a value of \$19.95 a ton.

"I have now had three years' experience with cane silage, and for beef cattle I think it is the best. I have not yet fed any of the feterita silage but am of the opinion that it will not prove altogether satisfactory. This is the first year I have headed the crop and placed the butts only in the silo. The cattle eat this silage greedily and are making good gains, but after figuring all the extra cost connected with saving the seed, I am of the opinion that it will not pay."

## Harvey County Experience.

George H. Hollister of Harvey County, built a 125-ton silo in 1913. He says:

"We filled our silo with corn that was nothing but fodder. It took 40 acres. We cut the crop just as it began to burn, and in spite of its poor quality it made excellent feed. We carried our stock through in good shape by feeding about one pound of cottonseed meal to each animal daily, in addition to the silage. Horses, cows, and calves all ate from the same trough. We could see no bad effects from feeding the silage to the horses. The fore part of the winter we fed a little straw and alfalfa, but during the months of February and March had no feed except silage, and the stock all came out in good condition.

"In 1914 we filled the silo with corn that would have made about three or four bushels an acre. The corn was very dry before we could get a cutter, and did not make as good feed as did the crop of the year before.

"Last fall we put 15 acres of corn in the silo. This crop would have husked out about 30 bushels to the acre. This corn was a little green, being just a little too hard for roasting ears. It filled the silo only three-fourths full and we had to complete the filling with corn that had been in the shock for a week or ten days. We put in what water we could with a three-quarter-inch hose. This dry corn silage is not as well relished by the stock as that made from the green crop.

"I think silage is the cheapest feed we can produce. We have known of several parties selling silage at the rate of \$4 a ton. We paid \$30 for the use of cutter and engine for filling the silo. We had to pay \$2.50 a day for help, and \$3.50 for men with teams. If we figured our own work at the same price we paid for that hired, it would amount to about \$1 a ton, including board for hired help."

# PRACTICAL FEEDERS REPORT

## Men Who Have Fed Silage Tell of its Value

WHEN there were only a few silos in the state it was not an easy matter to present the advantages of the silo as an economical means of feed preservation. We felt so sure, however, that the silo would be a money-making investment, that we continued to advocate its use, presenting every argument possible to prove our statements. Now that there are over 9,000 silos in the state, there is hardly a community where we cannot refer the doubter to someone near at hand who has had experience in feeding silage.

There is no preaching more convincing than personal testimony. In what follows on this page we are letting the level-headed business farmers who are using silos, preach the sermon on the silo as a profitable farm investment. These men have no axes to grind. They are simply telling their personal experiences in the hope that what they have to say may be the means of showing some of our readers the way to making more money farming.

### Silage Worth \$4 a Ton.

I have two silos, each having a capacity of 150 tons. It required 16 acres of cane to fill the two, and cost around \$100 for help and engine. We have our own cutter.

This cane was the best I have ever seen, and made fine silage.

I am feeding stock cattle. I would not think of trying to winter stock, or feed fat cattle without silage. I consider this feed is worth \$4 a ton. It is fine horse feed. I cannot give the silo too much praise. When a man tries to keep stock these days without having a silo, he is behind the times, in my opinion.—T. E. KNIGHT, Smith County.

### Silage in the Wheat Belt.

To no class of farmers does the silo open greater possibilities than to those in the wheat belt of our state. In these great wheat-growing sections live stock must be associated with wheat growing more than it has in the past. A good many farmers in that part of our state have found that the silo is a necessity in handling stock profitably.

In Pawnee County some of the leading farmers have built silos and the county as a whole is making considerable progress in live stock production. A. L. Stockwell, who has fed silage very extensively, gives the results of his experience:

"I consider the silo a present day necessity. In these times of sharp competition in live stock production, it is necessary to adopt modern methods if we would avoid disappointment. In this community we feel that much credit is due KANSAS FARMER for the efforts it has put forth in encouraging silo building in the state.

"This is my third year of silage feeding. I have four large silos with a combined capacity of 1,000 tons. I plan to re-fill two of these silos about February 1 with shock fodder from the field.

"Last year I fed silage to 5,000 Western lambs with the very best of results. The gains were more rapid and were larger than I had ever before been able to make, and the saving in grain was nearly 50 per cent. Last week I was on the Kansas City market with a load of 86-pound lambs that sold for \$10.40 a hundred. These lambs had gained 26 pounds apiece in 100 days, and had been fed silage up to the day of shipment.

"My farm usually produces about 500 tons of alfalfa hay and it is my plan to grow each year 1,000 tons of silage. I like to combine these two feeds in the proportion of one pound of alfalfa hay to two pounds of silage, both for sheep and for cattle. We are feeding a smaller number of sheep this year than usual, but are wintering 700 head of cattle. These cattle are stock cows and calves, yearling steers, and feeders in the fattening lot, and all receive daily about three pounds of silage to 100 pounds of weight.

"I use the black-hulled kafir exclusively for the silage crop. In 1913 it yielded 15 tons an acre on bottom land, the estimated grain yield being 40 bushels an acre. Last year our kafir

made 18 tons, and a grain yield of 50 to 60 bushels an acre.

"We have been able to fill our silos at a cost of 75 cents a ton, including all expenses.

"In cutting silage for sheep feeding it is important to do a good job. The knives should be sharp and set to cut in quarter-inch lengths. The short lengths will pack better in the silo and there will be no waste in feeding. This is a point many overlook in feeding silage to sheep."

### Cheapens Meat Production.

"We must make our gains on full-fed cattle cheaper than is possibly by feeding grain and dry feed." This is the statement made by Clarence J. Solt of Washington County, in writing of his experiences in feeding silage.

"The grazing of animals and the feeding of silage and alfalfa, is the solution to the problem of reducing the cost of production. Sheep, cattle, and horses can consume, to good advantage, the coarse waste feed of the farm, if this is put in the silo. By so doing we can produce meat more cheaply and not need a war market to enable us to come out even.

"I have now used silage for four years and find it works splendidly in combination with alfalfa, both in keeping stock cattle and feeding milk cows and horses. I feed it to everything on the place, hogs and chickens included.

"I now use cane almost entirely and think it the best of all crops for silage. On upland it makes from 8 to 12 tons an acre, according to the season. The varieties I like best are the Sumac and Early Orange. I ordinarily feed cottonseed meal with my cane silage and find it makes a splendid combination, but the meal is rather high this winter.

"I figure that \$2 will cover the average cost of growing silage and putting it in the silo, this including land rent, labor, and all other expenses. In feeding it out I get values of \$3 to \$5 a ton each year, depending on the cost of the stock and the price received when sold on the market.

"I find it pays to provide good sheds for the cattle and give them plenty of bedding. I also practice hauling out all the manure in the winter, if possible."

### Essentials in Cattle Feeding.

J. H. Detwiler, a cattle feeder of Smith County, says that in no other way can a farmer save so much feed for so little money as in the form of silage. As long as he handles cattle he will not think of getting along without the silo.

"I built a 16x50 silo during the summer of 1912, and put in 25 acres of corn that had been caught by the frost. This corn would have made 40 bushels an acre had it matured. I also put in four acres of cane, and still the silo lacked 8 feet of being full.

"That fall I bought 135 head of calves.

I fed them until January 1, about 15 pounds of silage each, daily, and other roughage, and for grain four bushels of corn daily for the lot. We then began to gradually increase the corn until they were on practically full feed. We also fed them one and one-half pounds of cottonseed meal with what alfalfa hay they would consume. They were marketed June 9 at an average weight of 663 pounds, and had made a gain of 363 pounds. We figured that each of these calves had eaten ten bushels less corn, due to having received silage as roughage. When they were on full feed the lot consumed only 27 bushels of corn a day.

"In 1913 our corn was very poor. We cut 100 acres and then did not have enough to fill the silo. That fall we bought 126 heifer calves that weighed 303 pounds, and carried them through the winter on one and one-third pounds of corn a day and 12 pounds of silage. In addition they ran in the stalk fields and had some hay. March 1 we gradually increased the corn until we had them on full feed, giving a pound and a half of cottonseed meal to each calf daily. They were marketed in Kansas City June 15 at a weight of 606 pounds. The 100 acres of stalks we put into this silo would not have been worth \$10 if left in the field, but in the silo we figured we had made the crop worth several hundred dollars.

"The fall of 1914 we filled our silo with 24 acres of African kafir and 6 acres of corn, the corn probably making about 10 bushels to the acre. The two crops were mixed as the filling proceeded. Corn being scarce and high that fall, we concluded not to full-feed any cattle, so we gathered 125 head of calves in our own neighborhood and carried them through the winter with one quart of corn each, daily, 15 pounds of silage, some alfalfa hay, and they had the run of the stalk field. In the spring we sold them as stockers, with a gain of 175 pounds.

"Last fall we filled our silo with Kansas Orange cane, this requiring but 16 acres. The cane had been damaged by frost and was not matured as it should have been to make the best silage. We have in our yards 150 head of calves that are receiving 12 pounds of silage each, daily, and we are gradually getting them on a full feed of corn.

"The cost of filling the silo varies greatly with the season. Some years we have to cut a much larger number of acres and this increases the cost. This year the total cost of filling our silo was \$150, or about 67 cents a ton. The yield of the cane was about 14 tons an acre."

### Cost of Silage.

A question frequently asked is—"What does silage cost?" Walter H. Doonan of Barton County, believes in using a pencil in connection with his

farm operations. Last fall he filled his silo with cane. Here are his acre figures on the cost of growing this crop and putting it in the silo:

"Rent of land, \$5; plowing, \$1.50; seed, 15 cents; harrowing once, 35 cents; cultivating twice, \$1; total cost of growing crop, \$8. The average acre yield was 14½ tons, making the growing cost 54 cents. The capacity of the silo filled was 145 tons and it took one and one-half days' time for the job. The expense was: Six men with teams, \$36; three men at silo at \$2.50 a day, \$11.25; two men to load in the field at \$2.50 a day, \$7.50; use of engine, \$15; 40 gallons of gasoline, \$4.25; 2 gallons of lubricating oil, 80 cents; cost of binding, \$10; board of hands, \$7.50; total, \$92.30, or an average ton cost of 63 cents. This makes the total cost of growing the crop and putting it in the silo, \$1.17 a ton.

"I am feeding this silage to 37 head of horses and 15 cows and calves. I am well pleased with the results. I find the feeding of silage much more convenient and a decided improvement over feeding the fodder in the old way."

### Six Years' Experience.

C. M. Garver of Dickinson County, has handled beef cattle for a good many years. His six years' experience in feeding silage to steers and stock cattle, has convinced him that it is worth fully twice what it costs. Here is what he says:

"I have always had good results in feeding silage with the exception of the first winter. We were feeding very heavily and during a long cold spell there was an accumulation of frozen silage which we fed to our steers for several days. It scoured the cattle badly and we almost lost several. We now keep a mattock in the silo and when the silage freezes during very cold spells we cut it away from the walls each day and mix it with silage that is not frozen. Frozen silage is all right when fed in this way.

"I never feed more than 20 pounds a head daily to fattening cattle. In feeding cattle I feed about 35 pounds daily to steers weighing 900 to 1,000 pounds, and in addition give them all the alfalfa they will eat. I find that cattle make very satisfactory gains when fed these two feeds.

"I have always used field corn in filling my silos, until the present season. I put kafir in one of them, but have been feeding the kafir silage for only a short time. The present indications are that it is going to prove very satisfactory. Kafir can be handled more conveniently in filling and also in feeding, and it makes a much larger tonnage than does corn. Last fall a number of fields of kafir in this neighborhood made fifteen tons and over an acre. I have found that it takes a good crop of corn to make ten tons of silage.

"In my experience with silage I have found that it can be grown and put in the silo at an average cost of \$2.50 to \$3 a ton, and it is worth double this amount."

### Eight-Fold Increase in Feed Value.

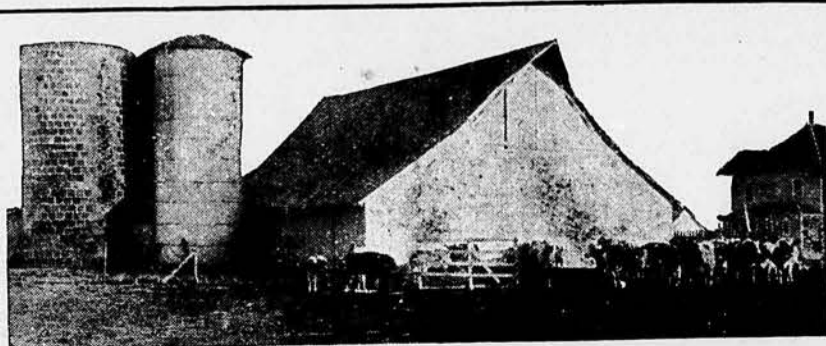
We filled our silo from a plot of ground containing 13 acres. We broke this land, which we had previously pastured and which in an ordinary year would keep five cows for four months. After planting it to kafir and putting this crop in the silo, we are able to keep forty cows four months, or eight times as many at an added cost of only \$35—and by trading work with our neighbors we were out only \$11.

Our stock is in better shape than ever before at this time of the year, and are always contented.

Our silage has kept perfectly.—J. B. MADISON & SON, Kingman County.



EQUIPMENT FOR HANDLING LIVE STOCK IS ONE OF THE PROMINENT FEATURES ON THE H. W. AVERY FARM.—HERE, AS IN THE RESIDENCE, PERMANENCE HAS BEEN SOUGHT IN THE RECENTLY CONSTRUCTED BUILDING



SILAGE IS FED THE YEAR ROUND ON DAIRY FARM OF P. W. ENNS, HARVEY COUNTY

# KANSAS FARMER

## SILAGE IN DRY LAND FARMING

January 29, 1916



BOOKS COUNTY FARM SCENE.—EVERY INDICATION OF THRIFT AND PROSPERITY.—SILO HAS HAD IMPORTANT PART IN BRINGING ABOUT THIS CONDITION

**T**HE important fact that is brought out by these experiments in feeding silage is that kafir, as a silage crop, is just as efficient as corn in the wintering and developing of beef calves, and that cane, because of its larger acre yield, is the cheapest silage crop that can be grown in those sections where it will mature. An interesting feature of the work is that the total cost of feed, exclusive of the value of the wheat straw used, will average approximately six cents a head, or, assuming a six-month wintering period, a cost of \$10.80. This allows a return of \$35 an acre for kafir and of \$49 an acre for cane where the yields approximate those that are given at the bottom of the tables.

The animal husbandry department of the Kansas Experiment Station has been devoting a considerable amount of time and expense to the determination of the value of these sorghum crops for the production of beef and pork when compared with feed crops that are usually produced in what is generally considered the more permanent live stock centers of the country.

In no section of the country has a permanent system of agriculture been built without the use of live stock. A very careful observation of the conditions that are prevalent in the sub-humid sections of the United States shows that more money is brought into those sections through the sales of horses, cattle, sheep, and hogs, than from all other sources combined. For this reason the question of the proper utilization of feeds which are especially adaptable to the soil and climatic conditions prevalent in regions of comparatively low rainfall is of great importance.

The experimental work in crop production indicates that the grain sorghums are probably the most valuable of all the grain and forage crops that have yet been tried. This is also indicated by the practice of the better class of farmers in the same regions who are continually increasing the acreage devoted to kafir, feterita, milo, cane and Sudan grass and at the same time are decreasing the acreage of corn, oats, barley, and other crops that are especially adaptable to the more humid regions.

### SILAGE FOR WINTERING CALVES.

The table on this page entitled "Wintering Beef Calves" is a summary of three different experiments conducted at Manhattan. It will be noted by examining this table carefully that the average amount of feed consumed daily was approximately the same when corn silage, kafir silage or cane silage was used as the chief source of food nutrients in wintering beef calves. The daily cost of feed was slightly less where kafir was used in the place of corn and decidedly less where cane was used in the place of corn. The average daily gain secured where kafir silage made up the bulk of the ration was 1.28 pounds; corn silage, 1.19 pounds, and cane silage, 1.12 pounds. In each of these three experiments a minimum amount of purchased feeds such as cottonseed meal, linseed meal, or cottonseed cake was used, but in every instance the quantity fed to each of the various lots was the same. The calves were high grade Herefords as nearly uniform in age, breeding, type, and condition as could be secured, so that the differences in their behavior in the feed lots were entirely due to the feeds used.

### CANE SILAGE FOR FATTENING.

The table entitled "Fattening Calves" was prepared to indicate the comparative value of ground kafir with ground corn for making baby beef. In this work fifteen very high grade Hereford steer calves were put on feed in December and full fed until June through a period of 180 days. During the first four months of feeding cane silage was used as a sole roughage. During the last two months a limited amount of alfalfa hay was added. The ground kafir did not result in quite so rapid a rate of gain nor in as high a finish as was the case when ground corn was used as a grain

By PROF. W. A. COCHEL, K.S.A.C.

ration. The cost of producing 100 pounds of gain was approximately the same in the two lots and the profit per calf of \$1.24 in the corn lot and \$1.08 in the kafir lot, is quite satisfactory considering the conditions under which cattle feeding was followed last winter. During the time that these calves were fed it is a safe statement that ninety per cent of the beef cattle which were on full feed lost money to their owners. Under the conditions reported in this particular test there was full value returned for all the feeds that were grown on the farm as well as for those which were purchased, and, in addition, a very slight profit without considering the by-products of the feedlots, such as hogs and manure, which are the most essential

factors in live stock feeding through a series of years.

### SILAGE FOR WINTERING STOCK COWS.

The table entitled "Wintering Beef Breeding Cows," gives the results of an experiment conducted at the Hays Branch Station where kafir was used as a source of roughage supplemented with what wheat straw the cattle would eat and one pound of cottonseed cake per head daily as a source of protein. The table is self-explanatory and indicates that beef breeding cows can be wintered entirely on the by-products of grain production as indicated in the second group, or that the acreage necessary to winter a beef cow in the dry farming section of the country is very greatly reduced where the kafir is converted into silage

and fed in a careful manner. The cost of wintering a beef cow is reduced to a minimum of 4.5 cents per day where the greatest care is used in preserving all of the kafir and feeding it from the silo in limited quantities.

It is essential that the dry land farmers as well as the farmers in other sections realize that the chief function of live stock is to furnish a market for the feeds that are produced in the local community, and that the live stock business cannot be separate and distinct from farming; that the best live stock men are almost invariably the best farmers in the community and that the best farmers are, as a rule, men who give a considerable amount of time and attention to live stock. It is easily possible to grow and develop stockers and feeders from the pasture and from the by-products of grain farms in the dry land regions. If there are certain favored localities where the production of grain is more profitable than the production of forage crops then the feeding or finishing of live stock can be made the chief enterprise on the dry land farm.

### Acre in Silo Worth Four as Fodder.

Breeders of pure bred cattle are finding that they can hardly get along without silage if they would keep their breeding herds in the best condition without too great expense for feed. George McAdam of Jackson County, who breeds Angus cattle, cannot be happy himself unless his cattle are comfortable and well fed. Since building the silo on his place he finds that it is an easy matter to keep them in a thrifty condition. We visited his farm the first year he had the silo and we never saw a more contented bunch of calves than he was wintering that year. We quote as follows from a letter received from Mr. McAdam:

"In the fall of 1913 I put twenty acres of corn in my silo. It was simply fodder, there being no ears. January 1 I opened the silo and fed 15 cows and 8 yearlings all they would eat, the old cows consuming about 40 pounds daily. For additional roughage I fed them wheat straw. To make this straw more palatable I took blackstrap molasses, thinned it with water and sprinkled it over the straw as it was fed. I never had stock do better. The straw was exceptionally good that winter and might not give as good results in other years. In February I began feeding alfalfa instead of straw.

"I consider an acre of corn in the silo as equal to four acres of corn cured as fodder, and for growing calves no other feed can be compared with it."

### Saving Silage for Summer.

Arthur Saum, Norton County, writes us that he does not expect to open his silo before February 1. He has plenty of fodder of various kinds and is feeding that first. He says:

"I think silage the best feed we have, and as we need our best feed for the last half of the winter, I am saving mine for that purpose and perhaps will have some left for summer feeding. I believe the sorghums are the crops for the western portion of the state, although this year corn has given splendid results. The growth was heavy but not well matured.

"In this locality it requires all the way from 15 to 40 acres to fill a 100-ton silo, depending almost entirely on the season. Fifteen acres of corn that will yield 40 or 50 bushels an acre will easily fill a 100-ton silo. A somewhat less acreage of heavy cane planted with a lister, will do the same.

"A ton of silage is worth more than a ton of any kind of hay, excepting alfalfa. Stock prefer silage above any other kind of feed. I generally feed them what they will clean up in an hour or so. For us Western farmers, straw makes a fine and more economical supplement for silage. I feed the silage at noon and keep straw in the racks for them to run to at all times. Good cane hay is better than the straw but is more expensive."

## Silage For Wintering Cattle

### WINTERING BEEF BREEDING COWS.

Hays Branch Experiment Station, 1912-13. Feeding period, 100 days. Twenty-five cows per lot. Results given as average per cow.

Ration	Feed per Day, Pounds	Total Acres of Feed Consumed	Cost of Feed per Day, Cents	Average Weight, Pounds	Daily Gain, Pounds
Kafir fodder .....	27.20	0.34	9.91	1136	0.50
Wheat straw .....	10.28	.51	...	...	...
Cottonseed cake .....	1.00	...	...	...	...
Kafir stover .....	25.60	0.43	5.61	1133	0.35
Wheat straw .....	10.79	.54	...	...	...
Cottonseed cake .....	1.00	...	...	...	...
Kafir silage .....	35.03	0.22	6.30	1078	1.34
Wheat straw .....	14.20	.71	...	...	...
Cottonseed cake .....	1.00	...	...	...	...
Kafir silage .....	20.05	0.12	4.44	1072	0.56
Wheat straw .....	17.18	.86	...	...	...
Cottonseed cake .....	1.00	...	...	...	...

Ton prices:		Acre yields:	
Kafir fodder .....	\$ 5.00	Kafir fodder .....	3.0 tons
Kafir stover .....	3.00	Kafir stover .....	2.0 tons
Kafir silage .....	2.66	Kafir silage .....	8.5 tons
Wheat straw .....	.50	Wheat straw .....	1.0 ton
Cottonseed cake .....	30.00		

### FATTENING CALVES—DECEMBER 24, 1914-JUNE 22, 1915.

Feeding period, 180 days. Fifteen calves in each lot, Alfalfa hay fed during last sixty days. Results given as average per calf.

Rations	Corn Chop	Kafir Meal	Hominy Feed
	Cottonseed Cake	Cottonseed Cake	Cottonseed Cake
	Cane Silage	Cane Silage	Cane Silage
	Alfalfa	Alfalfa	Alfalfa
Initial weight .....	540 lbs.	541 lbs.	539 lbs.
Final weight .....	894 lbs.	854 lbs.	858 lbs.
Gain .....	354 lbs.	313 lbs.	319 lbs.
Cost of feed .....	\$35.38	\$31.26	\$32.42
Cost per 100 pounds gain .....	9.99	9.98	10.16
Initial value .....	45.90	45.98	45.31
Final value .....	82.52	78.32	78.72
Profit .....	1.24	1.08	.49

All feed charged at market price.

### WINTERING BEEF CALVES.

Summary: Experiment 1—Feeding period, 100 days; ten calves per lot. Experiment 2—Feeding period, 100 days; seventeen calves per lot. Experiment 3—Feeding period, 120 days; fifteen calves per lot. Results given as average per calf.

Ration.	Corn Silage,	Kafir Silage	Cane Silage,
	Protein Supplement, and Wheat Straw	Protein Supplement, and Wheat Straw	Protein Supplement, and Wheat Straw
Initial weight—Jan. 21, 1913..	417 lbs.	412 lbs.	428 lbs.
Dec. 27, 1913..	321 lbs.	325 lbs.	322 lbs.
Dec. 24, 1914..	441 lbs.	446 lbs.	446 lbs.
Feed daily—Silage .....	27.39 lbs.	27.29 lbs.	27.55 lbs.
Supplement .....	.98 lbs.	.98 lbs.	.98 lbs.
Feed cost daily .....	6.26c	6.26c	5.60c
Average daily gain .....	1.19 lbs.	1.28 lbs.	1.12 lbs.

Value of feeds per ton: Corn silage, \$3.50; kafir silage, \$3.50; sorghum silage, \$3.00; protein supplement, \$30.00. (Cottonseed meal was fed as the supplement in Experiment 1, linseed meal in Experiment 2, and cottonseed cake in Experiment 3.)

Yield of silage per acre: Corn, 12.11 tons; kafir, 10.66 tons; sorghum, 16.93 tons. (Average of the 1912, 1913, and 1914 yields secured on second bottom land.)

# Announcement of Louisiana's Land Opening

This announcement is appearing all over this country at the same time. We are determined to sell the lands described herein just as quickly as possible. If you want to own one of these farms, then by all means send us the coupon below, together with your first remittance, today without fail. If you will not take our word as a guarantee, and you desire to know more about these lands before reserving a farm, then send the coupon for our literature below.

## These Lands Described

These lands lie 690 miles south of Kansas City, on the Kansas City Southern Railroad, about sixty-five to seventy miles north of the Gulf of Mexico, in what is known as the Ozone Belt of Louisiana's Western Highlands. They lie from 130 to 185 feet above sea level, and are naturally well drained and free from any connection with alluvial meadows, drain swamps or land of similar kind. Too much cannot be said of the natural formation of this country.

## Soil.

The soil is a dark colored, sandy loam, underlain by a rich clay subsoil. This soil is known as a very quick soil, as the sun warms it quickly, allowing seed to germinate rapidly. It is a natural soil, built by natural methods, and not deposited by overflows, etc.

## Transportation.

Beauregard and Vernan Parishes (Counties), in which Long-Bell Farms are located, enjoy unequalled transportation. The Kansas City Southern Railroad, Lake Charles & Northern Railroad, Louisiana & Pacific Railroad, Gulf, Colorado & Santa Fe Railroad, and several chartered railroads of lumber companies are available through both of these Parishes. The Kansas City Southern Railroad gives an entrance into Port Arthur, where sea transportation can be had to all points of the world.

## Schools.

The school system of this locality is one of the most attractive points in its favor, being equal to any similar system in the North.

## Roads.

The roads in these two Parishes are exceptionally well built, and a large amount of money, in the near future, is to be expended for additional highways.

## Crops.

It is our purpose to recommend general farming and live stock raising throughout this section. Louisiana's corn crop for the year just past is estimated at 48,000,000 bushels. This is a jump from 19,000,000 bushels in 1913, and shows how rapidly is Louisiana changing from a one crop state to a diversified farming section. Here you may grow corn, oats, hay, the clovers, velvet beans, cow peas and other legumes, and with less competition than in almost any section of the North. We recommend Sudan grass growing, especially, for this section. Besides the staple crops, you can devote a few acres to trucking and can have about your home for additional profit such products as oranges, kumquats, figs, grapes, peaches, melons, ground fruit, etc. The staple crop of Louisiana, of course, is cotton, and most of our Northern farmers will want to have a crop of this great "mortgage lifter."

## Live Stock, Poultry, Etc.

This section of Louisiana is well adapted to all kinds of live stock raising, cattle, sheep, hogs, and by the introduction of fancy stock for breeding purposes the native stock, which is cheap, can be turned into money very fast. There is a great demand for poultry and poultry products right in this very section, and especially in the large Southern market. This demand is now supplied by the North.

## This Company—Our Plans.

This Company is a sister corporation of the Long-Bell Lumber Company of this city, which holds first rank among America's largest lumber producers. You may investigate this Company through your bank, Dun's or Bradstreet's, or in any way you so desire. The fact that its name is con-

find nothing congenial among the men and women who are coming to the Long-Bell Farms with funds to build their homes and plant their crops, and who know what success is. We have 200,000 acres of land to sell, beside that now being offered for sale, and we want to make the first 100,000 acres we sell quickly dispose of the remaining portion of our holdings. With this end in

in Beauregard and Vernan Parishes tend to make our land have a value in excess of \$25.00 per acre.

Read carefully the table below, and as you read remember this: **If you do not take advantage of reserving a farm now at these prices you have no one to blame but yourself.**

All you have to do is to determine the number of acres that you want to reserve. Then remit us 50c per acre, together with the reservation coupon below. As these coupons come into our office they will be allotted land at the prices then prevailing. For instance, if you get your reservation to us the first one you will receive land upon a basis of \$12.00 per acre. When time limit has expired we will select you a farm at \$14.00 per acre, and allotments will be made in this manner. The 50c per acre reservation applies for any size farm of 40 to 80 acres each.

As soon as we have allotted this land to you we will send you a purchase contract and a receipt for the money you have remitted to us, and we will tell you exactly the price at which your land was bought. If this price is not agreeable to you we will return to you every cent you have paid. There are no "ifs" or "ands" about this statement. The question of price is made for the purpose of quickly disposing of our land and placing settlers upon it, in order that we may settle up this community as fast as possible.

After you receive our purchase contract you will be given ninety days in which to investigate your land, without any further payments. When you have seen your land, if it is not entirely to your satisfaction you may select a tract entirely to your own liking, or failing to do this, we will refund every cent you have paid us. This is the way we intend to do business.

We do not want you to buy an acre of this land, nor to reserve a tract, unless you can see your way clear not only to keep up your payments to this Company, but to make the kind of improvements that are necessary in any new farming section.

## Our Free Book.

No matter whether you send us a reservation or not, be sure and send us the coupon below for our free book entitled "Where Soil and Climate Are Never Idle." In this book you will find every phase of Long-Bell Farms entirely covered. We will show you by the eye of the camera the very country you will view when you go down to investigate your land. We will give you facts and figures with respect to this section of Louisiana. We will tell you of the work done by the manager of the Long-Bell Demonstration Farm, which comprises 612 acres. You will see pictures of oranges, oats, corn, cotton, vegetables, figs and grapes grown on the very same farm.

We will tell you of a country where, upon a few acres, you can earn an easier and a larger living than you are now doing. We will tell you and show you a section of Louisiana that from the standpoint of education, health, comfort and transportation you can enjoy life to your fullest. We will show you how land values are increasing all over Louisiana, in this section particularly, and we believe that we can convince you with this literature that here is the place for the man who wants to succeed and to locate.

We do not intend to lure you by fancy pictures of any kind, but we are going to talk to you in a man to man fashion about one of the choicest spots that is as yet left untouched by the plow of man. By all means send for our great literature today. Just clip the coupon now and place it in an envelope and send to us.

## TABLE OF PRICES AND TERMS

50c per acre is the Reservation Price, no matter what land is allotted you.

Price Per Acre	Time Limit	Reservation	Down Payment Made After Inspection	Time Interest
\$12.00	Jan. 30 to Feb. 5, 1916	50c per acre	\$5.00 per acre	3 to 5 yr. 6%
14.00	Feb. 6 to Feb. 15 "	50c per acre	6.00 per acre	3 to 5 yr. 6%
16.00	Feb. 16 to Apr. 1 "	50c per acre	6.00 per acre	3 to 5 yr. 6%
18.00	Apr. 2 to June 20 "	50c per acre	6.00 per acre	3 to 5 yr. 6%
20.00	June 21 to Sept. 15 "	50c per acre	6.00 per acre	3 to 5 yr. 6%
22.00	Sept. 16 to Nov. 1 "	50c per acre	6.00 per acre	3 to 5 yr. 6%
25.00	Nov. 2 to Dec. 31 "	50c per acre	6.00 per acre	3 to 5 yr. 6%

80 acres is largest farm we sell to each man at \$12.00 per acre.

You select your own land if our selection does not suit you. You are allowed 90 days in which to make an examination in person or through agent. No sale complete until land is examined and accepted by you or for you in writing. If land allotted you is not satisfactory, all reservation money will be refunded to you.

## How to Send Reservation

Select, for instance, 80 acres. Send us \$40.00 as reservation. You will be allotted the land for sale at the prices which prevail when your reservation is received. If not satisfactory to you, we will return the \$40.00 to you on demand. That is all you have to do. First come will be first served. The \$12.00 land is the same quality as the \$25.00 land. You can select your own farm, if you so desire, after you make your reservation.

## Our Guarantee

Send us your reservation and remittance of 50c per acre for each acre you want to reserve, and we will allot you land at the price at which same is being sold at the time your reservation arrives. The only rule we follow is, "First come, first served." As mail comes into our office it will be stamped with the day, the hour and the minute, and it will be opened in this manner.

The first reservations receive the lowest price land, the \$12.00 land is the same quality as the \$25.00 land, and those that follow, follow in this order. We will notify you immediately after allotment the price at which you bought. If this is not satisfactory to you, we will return every cent you have paid.

## Long-Bell Farm Land Corporation

By R. A. LONG, Chairman the Board of Directors.

nected with this project should be sufficient for you to investigate carefully the opportunity it offers.

We want the men and women who buy our lands to know that everything we say we will do we actually will do. We want no man to buy an acre of land who does not believe he is capable of developing his farm as a good farm should be developed. We want men and women who understand how good is the climate and soil and who know how to make the climate and soil return to them the income that is worthy of their efforts. Dreamers and idlers will

view we have decided to sell our land upon the following lines:

## The Plan.

In a table given above you will see exactly what land we have to sell and the prices at which we are selling it. There is no difference between the highest priced land we offer and the lowest priced, except a price difference.

Raw, uncleared, unimproved land throughout the South is frequently sold by similar organizations to our own at \$2500 per acre. We believe the natural advantages and the benefits derived from transportation, etc.,

# Long-Bell Farm Land Corporation

Suite 424 R. A. Long Building, Kansas City, Mo.

## RESERVATION COUPON

LONG-BELL FARM LAND CORPORATION,  
Suite 424 R. A. Long Building,  
Kansas City, Missouri.

Gentlemen:

Please reserve me.....acres in your Long-

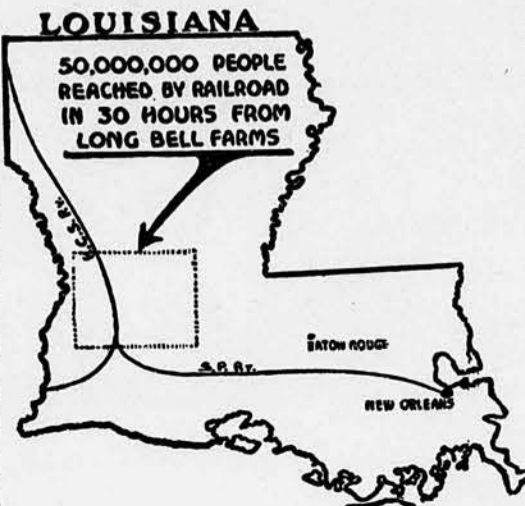
Bell Farms Colony. I enclose \$.....as my reservation remittance. If the land you allot me is not satisfactory to me in price, or for any other reason, you agree to return the money I enclose herewith upon demand by me.

Name .....

Address .....

State .....

Note.—If you have not the money in the house, write us a letter or telegraph at our expense and tell us definitely when this money will reach us, and we will make a reservation and hold to your order for ten days.



## FREE BOOK COUPON

LONG-BELL FARM LAND CORPORATION,  
Suite 424 R. A. Long Building,  
Kansas City, Missouri.

Gentlemen:

Please send me your great book entitled "Where Soil and Climate Are Never Idle." I bind myself in no way to buy one of your farms, but I agree to read your book.

Name .....

Address .....

State .....

Note.—If you want to know the commercial value of the company standing responsible for this announcement, you may refer to any bank, express company or the commercial agencies, such as Dun or Bradstreet.



**8 Horsepower  
Only 320 lbs.**

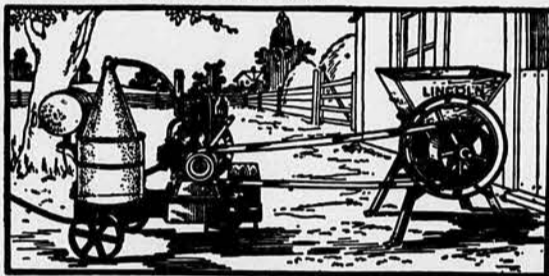
**Did You Ever See  
Any Other 8 H. P. Engine  
Two Men Could Carry?**

## Pick It Up and Walk Off

The Cushman is the lightest weight farm engine in the world. It is an engine you can handle—that you can move around and put to work anywhere without preparing a permanent base.

It is no longer necessary to put up with old-style, back-breaking, heavy-weight engines, with their violent explosions and their fast and slow speeds—built from a design 30 years old. If you have one of them, better throw it in the junk heap and get a modern light-weight engine.

Six years ago the Cushman Motor Works designed a new type of engine for farm work. It was exceedingly light, weighing only about one-fifth as much per horse-power as most other farm engines, but so well built and accurately balanced and governed that it ran more steadily and quietly than a farm engine was ever known to run.



Compare this powerful little 4 H. P. Cushman weighing only 190 lbs. with other 4 H. P. engines. With iron truck it weighs only 375 lbs. Besides doing all other farm work, can be used on binder during harvest.

## Cushman Light Weight Engines

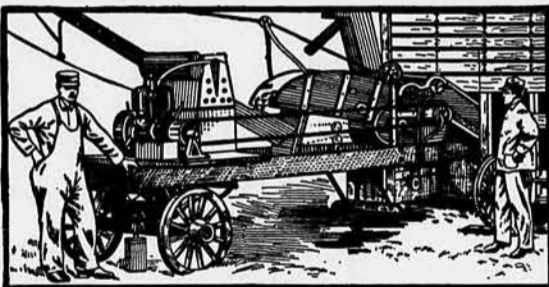
**40 to 60 Pounds per Horse-Power**

**4 H. P. Weighs Only 190 lbs. 15 H. P. Weighs Only 780 lbs.  
8 H. P. Weighs Only 320 lbs. 20 H. P. Weighs Only 1200 lbs.**

Cushman Engines are equipped with Throttle Governor and Schebler Carburetor. The very sensitive Cushman Throttle Governor allows the engine to receive just enough fuel to take care of the load at that moment put on the engine. This results in a uniform speed and power that is impossible to secure in engines not carefully governed. The perfect balance of the Cushman also contributes to its steadiness, and this steady speed insures unusual durability and freedom from engine trouble.

The 4 H. P. is a wonderful little farm engine, because in addition to doing all the ordinary farm work, it is so light it may be attached to moving machines in the field, such as grain and corn binders, potato diggers, etc., driving the operating part of the machine and leaving the horses nothing to do but pull the machine out of gear. It is thus an all-year engine.

The 8 H. P. is possibly the most useful all-around farm engine ever built. It may be used for such a wide range of work—from the smallest jobs to driving the ensilage cutter, wood saw, corn sheller, and even small threshers. It will do the little jobs just as economically as a small engine, as it uses only enough fuel to do the actual work required. All 8 H. P. and larger Cushman Engines are double cylinder. Double cylinders mean steadier power.



8 H. P. Cushman Mounted on 4-Hole Corn Sheller

The Cushman is not a cheap engine, but it is cheap in the long run. If you want a good engine, that can easily be moved around to do all your work, and that will run for years without trouble, you will be interested in learning more about the Cushman. It will be a pleasure to send you our book.

**CUSHMAN MOTOR WORKS**  
822 North 21st St. Lincoln, Neb.

### Before Buying Any Engine

#### ASK THESE QUESTIONS

##### How Much Does It Weigh?

If it weighs more than sixty pounds per horse-power—why? The old-time argument was that heavy weight is necessary to keep it steady, but if an engine is properly balanced, it doesn't need pig iron to hold it down.

##### Is It Throttle Governed?

A throttle governor insures steady, quiet and economical power.

##### Has It a Good Carburetor?

The Cushman has the Schebler. The Schebler makes say most manufacturers of farm engines won't pay the price for a good carburetor.

## SILAGE TEMPERATURES

J. B. FITCH, K. S. A. C.

THE results of four years' work in taking temperatures in five kinds of silos at the Kansas State Agricultural College indicate that the influence of temperature upon silage fermentation has been much overestimated. It is no doubt true that certain temperatures are more favorable than others to the changes that go on in the silo, but that this temperature range is very wide would be inferred from the fact that silos are filled in the middle of winter or during the heat of summer and a good quality of silage produced without regard to material from which the silos are made.

In studying the different types of silos with regard to the temperature of the silage, it was found that there is a slight difference between the temperatures in the different types of silos. It was also noticed that temperatures taken at different points in the same silo were different. The temperature in the surface foot of silage in one instance did not reach its highest point until about twenty days after filling. This was due to the fact that silage was fed from this silo for nearly two weeks after filling when it was refilled and allowed to stand. In most cases where the surface of the silage was not molested the maximum temperature was reached within the first five to ten days after which it slowly cooled down. The highest temperature reached in this silo was a week after refilling when the surface was 140 degrees Fahrenheit.

In this silo at the time of filling the wall and center temperatures were both about 104 degrees F. From this time on the center was uniformly higher in temperature than the wall. At the end of the first month there was a difference of 20 degrees F., the center being practically the same as at filling time, with the wall temperature following the outside air temperature quite closely. As the air temperature became lower with the advancing season the wall temperature lowered and the difference between the wall and center temperatures gradually widened until at the end of the third month there was a difference of 34 degrees F. At the end of the first month the wall temperature was 7 degrees F. higher than the outside temperature and 20 degrees F. lower than the temperature at the center of the silo. The temperature of the surface foot of silage was 26 degrees higher than the temperature in the center of the silo 15 feet lower down. While these temperatures vary widely, due to the outside temperatures, the center of the silo was the least affected. The changes which take place in the silo cause heat to be generated, and it is apparent that it is lost very gradually.

It has been noticed that the heat generated in the presence of air, by the spoiling silage at the surface, will affect the silage temperature to a depth of three to five feet. In poorly packed silage air may permeate to this distance and actually cause silage to spoil at this depth. In this case the temperature would be influenced to a greater depth. When the rotted material is thrown from the silo at the time feeding is begun the surface foot becomes much cooler. In some cases, however, portions of the surface will be found, as the silage is fed off, that are very hot.

In the study of the different types of silos, the wood stave, plastered cement, monolithic cement and galvanized

iron silos have been under observation with special reference to the temperature at the walls and centers of the silos. The daily temperatures in these silos were taken by means of lowering thermometers into covered pipes at the wall and center of the silos. The silos in every case, with the exception of the ten-foot galvanized iron silo, were sixteen feet in diameter. While this method of taking temperatures is not as accurate as the method in use at the present time, the results should be relative.

A study of the temperatures taken six inches from the wall in the four types of silos compared shows that the temperatures are very nearly the same, there not being a greater average difference than 10 degrees F. for the four types of silos during the fall of 1912. The galvanized iron silo is probably more susceptible to changes in temperature than the other silos and approaches the outside temperature more closely than the other silos. Next to this the plastered cement silo is most influenced by outside temperatures, with the solid wall cement and the stave silo next in order, and very nearly the same, the greatest variation between the four being, as stated above, 10 degrees F.

A comparison of the temperatures at the center of the silos showed the same relative positions. That is, the galvanized iron silo showed a lower temperature than the plastered cement silo and the plastered cement silo in turn lower than the solid wall cement and wood stave silos, the latter two being practically the same. The average temperature at the wall of the four different silos was 55 degrees F., while the average temperature at the center of the same silos was 84.2 degrees F. for the fall and winter 1912-'13.

It is apparent that the highest temperature reached in a silo is in the surface foot where the silage is in contact with the air and that below this the temperature gradually drops from 104 degrees F. at filling time to about 85 degrees F. during the first three or four months, depending upon the outside temperature. The distance in from the wall that the silage temperature is affected has not been determined, but that this is very slight might be inferred from the slowness of cooling of the silage at the center of the silo.

The most important fact of the whole matter of temperatures in silos is that the quality of silage produced in the silos studied was in every case excellent. The slight difference in temperatures of the different types of silos had no effect upon the keeping quality of the silage.

Here is how County Agent Folker, of Jewell County, is urging preparedness against the chinch bug: "Have you noticed the enemy, the chinch bugs? Yes. The wet summer was favorable for their death by the fungous disease. In many places there is a survival of the fittest. Henry Ford's peace plan won't drive them 'out of the trenches,' but a little united 'firing' right now along the roadsides, bunch grass, hollows, etc., will drive them from their winter quarters, and the weather man will claim the victory. This is the ounce of prevention, the safety first doctrine. It won't do any harm to remind your neighbor that this plan is good for him also. That's co-operation, you know."



IN DRY SECTIONS SILAGE MAY BE STORED IN PITS.—CUT SHOWS THE FILLING OF THIS TYPE OF SILO ON FARM OF NEAL BENNETT, PRATT COUNTY, KANSAS

## Forkner Alfalfa Cultivator

Stirs and aerates the soil—uproots grass and weeds—destroys clover root weevil—leaves dirt mulch and conserves moisture without cutting or injuring the alfalfa. It will



### Put New Life and Vigor

into old meadows, pastures and hide-bound wheatfields. Write for catalog and free book "Modern Soil Tillage."

**LIGHT DRAFT HARROW CO.**  
Dept. 406 Marshalltown, Iowa

READ KANSAS FARMER'S CLASSIFIED  
ADVERTISING PAGE FOR READY BARGAINS

# A GENUINE TUNG-LOK SILO

## \$99. Freight Allowed

## Greatest Silo Value On Earth

THE TREMENDOUS SALE OF TUNG-LOK SILOS HAS ENABLED US TO DESIGN A SPECIAL SILO, POSSESSING ALL THE FAMOUS TUNG-LOK PATENTED FEATURES WITH THE SAME STYLE OF CONSTRUCTION, AND OFFER IT AT THE UNHEARD-OF PRICE OF \$99. THEREFORE THE QUESTION OF PRICE NEED NOT STAND BETWEEN YOU AND THE PURCHASE OF THE BEST SILO IN THE WORLD.

### \$50. Saved In Construction Cost Alone.

Simplicity of construction is, first of all, the chief reason for the enormous demand for Tung-Lok Silos. No "expert" help is required to erect the Tung-Lok—one man and a helper (a boy will do) can easily put up a Tung-Lok in three days, thus saving at least \$50—the usual cost of "expert" help.

### AS Simple to Erect As a Child's Block House

The unique patented Tung-Lok construction consists of layers or units of selected yellow pine or fir that are grooved and fit one into the other—lock and interlock, forming a continuous wall that becomes a tower of strength—absolutely wind-proof, cold-proof, moisture-proof and frost-proof. The Tung-Lok stands alone—solid as a rock—the very best investment on any farm.

### No Hoops, No Guy Wires, No Bracing

Bothersome hoops that must be tightened or loosened are eliminated—not needed on The Tung-Lok. Guy Wires are not required, because the Tung-Lok stands firm and solid—rigid and strong. Bracing of any kind is an absolute waste when you erect a Tung-Lok—it is like a great giant that defies the elements—the strongest wind or sweeping blizzard.

### SILO Perfection Reached In The Tung-Lok

From every standpoint, the Tung-Lok represents absolute perfection in silo design and construction. Yellow Pine and Fir is best adapted of all wood. The ensilage acids really act as a wood preservative. The patented Tung-Lok interlocking layers or units form a wall that becomes as one solid piece.

### HEIGHT Can Be Increased At Any Time

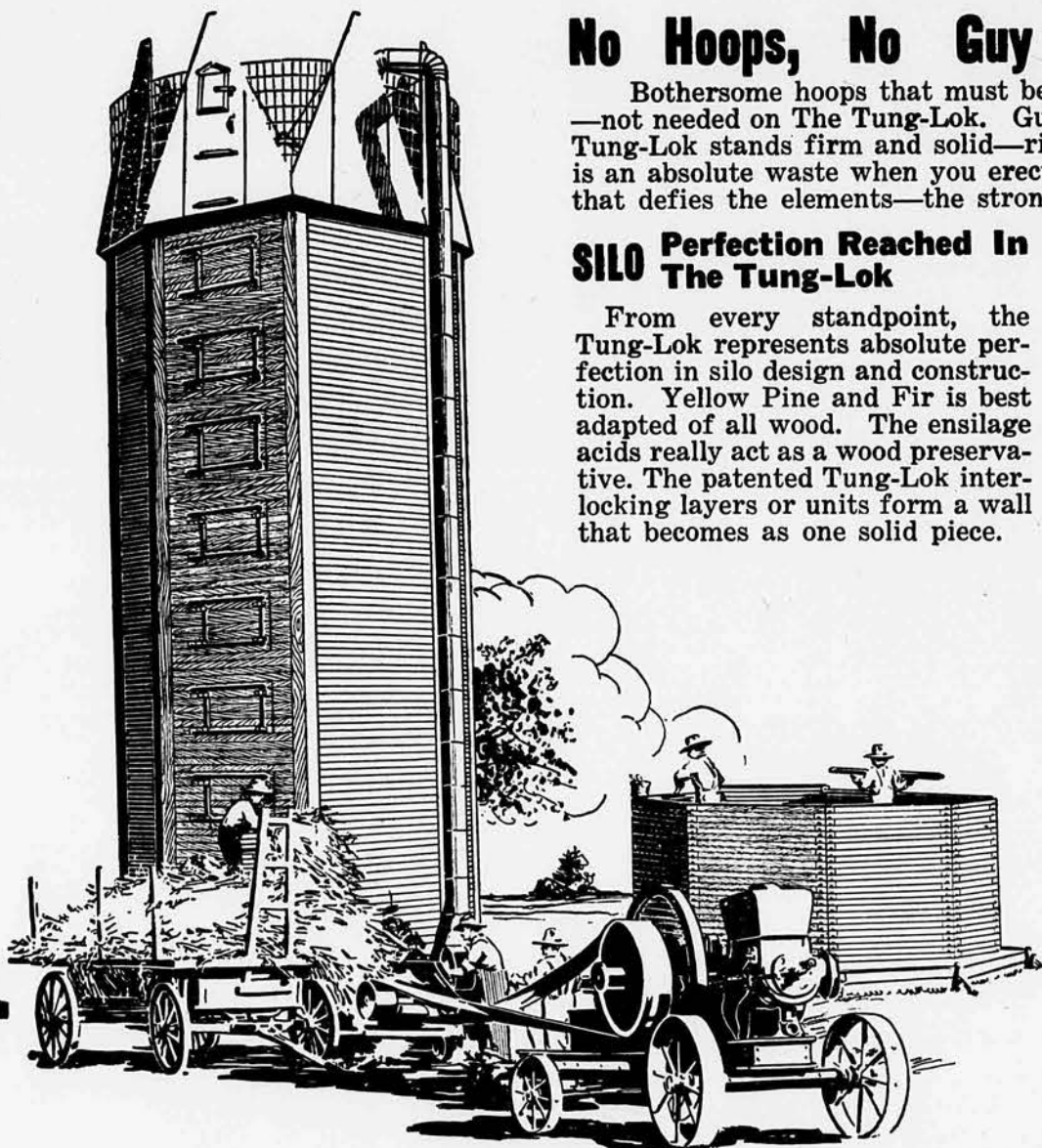
You can build up to 30 or 40 feet and later add up to any height desired, as you feel the need of increased silo capacity. This is a wonderful advantage. There is absolutely no waste of material or money. The Tung-Lok provides a safe storehouse that saves you 50 per cent on stock feed—more than enough to pay for one or two Tung-Lok Silos in one season.

### Write For Free Silo Book

We have an interesting book on the silo subject that we want to send to any farmer who is considering the purchase of a silo. Even though you may have a silo now, the time will come when you will want another. SEND FOR OUR FREE BOOK TODAY or call on your dealer and see a model of Tung-Lok construction.

### Special Tung-Lok Silo \$99. Freight Allowed

For a limited time we will sell this special silo at this remarkably low price. We cannot guarantee to keep the price down to \$99. The gradual increase in the price of lumber will soon have its effect, but right now we are prepared to ship a large number of silos at the special price.



## See Your Dealer For Full Information

Scores of dealers in every state are Tung-Lok Factory representatives. If there is not a Tung-Lok dealer near you, we can handle your order direct from our big mills. Ask also about "Tung-Lok" Grain Bins and Water Tanks. Prices right. WRITE FOR OUR FREE BOOK NOW.

## Tung-Lok Silo Company

103 Interstate Building

Kansas City, Missouri

## That Means True Economy!

THAT triangle trade-mark never appears on steel or common iron culverts; you will never find it on "good enough" flume or culvert sections. It is the recognized stamp of quality. It means honesty of manufacture and the assurance of long-run economy and service that will continue long after you have forgotten the price of

## "ARMCO" AMERICAN INGOT IRON CULVERTS



Why? Because ARMCO IRON RESISTS RUST. It is pure iron of even and uniform texture through and through. It is practically free from the gases and impurities that cause steel and ordinary iron to rust out in spite of galvanizing.

Look for that trade-mark on every section of Culvert. If it is not there the culvert is not the genuine ARMCO (AMERICAN INGOT) IRON, and will not give the greatest service for the money expended.

For full information on "Armco" Iron Culverts, Flanges, Sheets, Roofing and Formed Products, write the manufacturer in your vicinity, or

**Armco Iron Culvert Mfrs. Association**  
Cincinnati, Ohio

**New Edition Just Out** **Only 10c**

**Modern SILAGE Methods**

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It's far superior to anything we have ever put out before. Tells everything you want to know about silos and silage. Home made silos—hoop and octagonal silos, pit silos, brick, concrete, tile, cement, metal—all modifications of all known types. We do not make silos, therefore, can recommend without favor. When you read this book you can make an unerring choice of the best type of silo suited for your particular needs. Your climate—your conditions—your stock—your land—your crops—are all fully discussed and best suggestions offered for increasing your profits. Copyrighted November, 1914. Contains 30 page Feeders' Guide and complete 10 page Index. 56 illustrations. Be sure to get this new copy. It's far ahead of former editions which were used as text books in agricultural colleges. We send it for 10 cents, stamps or coin. Send for this revised edition—read it and profit from the knowledge you will get from it.

**Silver's "Ohio" Silo Fillers**

have for years made the best records for big capacity, fast work and low operating cost. Let us tell you about our new model by sending you catalog and our free booklet, "Silo Filler Logic." Write today for these two books. Enclose 10 cents and receive the new edition of "Modern Silage Methods" with them.

**The Silver Mfg. Co.**  
352 Broadway  
Salem, O.

## 30 Years the Guide to Seeds and Trees

100,000 people, scattered through every state of the Union, have made our Garden Book their market place for seeds and trees. This is the result of thirty years sale of fresh, vigorous tree stock and pure, high germinating seeds.

A Few Prices: Apple, 6c; Peach, 8c; Plum, Pear and Cherry, 15c each, all grafted; Concord Grapes, \$2 per 100. Freight paid on tree or plant orders of \$10 or more. It will pay you to buy from the same reliable house. Write for our 1916 Illustrated Garden Book. It will help you plan your field, orchard and garden planting. It lists a complete assortment of Field, Vegetable and Flower Seeds, Fruit and Ornamental Trees, Shrubs and Vines. Just drop a postal.

**GERMAN NURSERIES & SEED HOUSE. Box 248, Beatrice, Neb.**

**READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS**

## Business Methods in Selling Stock

PROMPTLY replying to every letter of inquiry is one of the most essential features of the business of selling pure-bred live stock. The reply should answer every question asked, and each question should be answered in a separate paragraph. Every inquiry concerning the offering should be fully answered and any additional information that the breeder can give that will help the inquirer to judge the offering will help in making sales.

Many breeders promptly answer a letter of inquiry, but if they do not receive a reply in a short time they consider the matter closed and drop the correspondence. One of the most successful salesmen of pure-bred hogs and one who has the reputation of selling more breeding stock by mail order through correspondence than any other breeder in his state, has adopted a follow-up system of correspondence that has proven highly successful. When he receives a letter of inquiry it is promptly and fully answered. A record of the dates on which the inquiry was received and answered is made and if in a reasonable time a second letter is not received, the breeder sends out a letter of inquiry to learn if the prospective buyer is still on the market for breeding stock or if he has made a purchase from some other herd. It very often occurs that the prospective buyer has simply been dilatory in the matter and the re-opening of the correspondence results in a sale which would otherwise have been lost. The experience of this breeder has been that sales are frequently made after even the third follow-up letter has been sent out.

Some breeders object to this method, on the theory that it may appear to the prospective customer that they are unduly anxious to sell. This ground is not well taken and it can well be classed as false modesty. The raising and selling of pure-bred stock is not only a legitimate but a necessary business. Mail order houses, insurance companies, and all of the larger manufacturing concerns have adopted an almost perfect system of follow-up letters in conducting sales. Banks solicit business in various ways and there is no reason why the breeder of pure-bred stock should hesitate to use every legitimate means to sell his surplus breeding stock to the best advantage possible. His business is in the interest of the welfare of the millions of consumers of the country, and none is of greater importance.

### CARD INDEX FOR LETTERS.

One of the easiest methods of handling a mailing list and keeping track of correspondence is by cards alphabetically arranged; whenever an inquiry is received or a breeder obtains the name of a prospective customer for his breed of stock, the name can be entered on a card and filed. If an inquiry comes, the date of its receipt can be entered on the card, also the date of answering. If a card the size of a postal card is used, a considerable amount of memoranda concerning the inquiry can be entered on the card and a very convenient record concerning the inquiry is accessible at all times. Any breeder who adopts some such method of building up a mailing list will find that for the few minutes it takes to make the entries he will save hours of time and also be much more successful in selling his stock to good advantage.

The necessary cards, including the alphabetical markers or guide cards, can

be obtained in almost any store where a line of office supplies is carried, at a trifling cost. If they cannot be found, the case can be made by one who is handy with tools and the cards can be supplied by any printing office where commercial printing is done.

These alphabetical markers can be made by using a card just a little wider than the record card so that when the marker is placed in the case the letter on the marker or guide can be seen above the other cards. A card three by five inches is convenient. The first and most important entry is the name and address of the person from whom the inquiry is received. This entry should be placed at the top of the card, and can be followed by such entries as the date of inquiry, date of answer, date of second letter from inquirer and, if none is received, date of follow-up letters which may be sent. If a sale is made, the date of the sale can be entered on the card and any memoranda as to report of the buyer when stock was received. A sample card is shown below.

### SYSTEM IN FOLLOW-UP CORRESPONDENCE.

A good method of caring for follow-up correspondence systematically is to set aside a space in the case of cards for the express purpose of keeping a line on this feature of the business. The arrangement of this compartment in the case is the same as the other except that it will need less space and instead of the guide cards being labeled alphabetically they should show the numerals from one to thirty-one. When an inquiry is received and answered the record card can be placed in this numbered compartment under the date on which it has been decided to send a follow-up letter in case a reply is not received before that time. Each day during the selling season this section of the case must be gone over and the cards placed in the alphabetical section after they have been answered and the notation made on the card to that effect. A third section of the case might be supplied with guide cards bearing the names of the months. Buyers will write that at a certain time they will be on the market for breeding stock. Cards placed in this file under the proper date will insure a letter going when the time arrives.

### LETTERS SHOULD BE FILED.

All letters should be filed for reference in a letter file alphabetically indexed, which can be purchased for 40 or 50 cents. No business correspondence is complete unless copies of all letters written are retained and pasted or pinned to the letters to which they reply. Where typewriters are used the making of carbon copies of letters written is a simple matter. Those not using the typewriter must copy their letters by hand or make carbon copies by using an indelible pencil in writing the letter.

Some breeders say that all these details take entirely too much time, but they should stop to consider that breeding up a herd takes time; feeding takes time. It takes years of time to build up a high class herd. Unless a little more time and attention is given to the system of selling the surplus quickly and to the best possible advantage, a large per cent on the investment will be lost.

The best proof of the value of the silo is the esteem in which it is held by the man who uses it.

<i>Jones - J.W. Riley Kans.</i>	
<i>Poland Chinas - St. Cattle</i>	
<i>1/14</i>	<i>Inquiry for Bull</i>
<i>2/3</i>	<i>Quoted price - \$100 - Roan calf - description</i>
<i>2/14</i>	<i>Follow up letter</i>
<i>2/11</i>	<i>Reply with check - Shipped calf Express 2/14</i>
<i>2/13</i>	<i>Letter - Highly pleased with calf.</i>
<i>2/17</i>	<i>Inquiry for Bred Sow</i>
<i>2/18</i>	<i>Quoted price and description - \$40.00</i>
<i>2/20</i>	<i>Rec'd check - Shipped Sow 2/21</i>
<i>2/22</i>	<i>Papers mailed</i>
<i>2/24</i>	<i>Letter - Sow arrived OK - (over)</i>

SAMPLE CARD SHOWING METHOD OF RECORDING BREEDERS' TRANSACTIONS

## Mixed Crops For Silage.

**T**HE first year we used our silos was the extremely dry season of 1913. I put all the corn we grew into one of the silos. It was immature and would have been of little value for fodder had it been saved in that form. It made 12 feet of settled silage in a silo 22 feet in diameter. We began using this about January 15 and it fed 80 coming-two-year-old heifers until grass came, using some prairie hay and wheat straw with it.

The same season I put about 20 acres of very poor kafir and cane fodder from the shock, into one of the silos. This made only 10 feet of settled silage. We used a lot of water as we were filling it and it was rather foul smelling silage, but the cattle ate it well and I carried the cows through to grass in fair shape, with this silage and a little prairie hay. There was no spoiled silage in either silo, except on top. While some of the corn silage around the edge of the upper four feet was a little moldy, the cattle ate it well.

Last season I filled one of the silos with a variety of crops. There was some kafir, cane, and a mixed crop—one-third cane, two-thirds kafir, milo, and feterita, planted with a lister, using a five-hole corn plate. It seems to me that the kafir silage feeds out much better than the other silage, excepting that made from corn. I do not like the cane silage so well as it is quite acid, but the cane is a sure crop.

Kafir in this section, when mature enough, is too dry unless water is added at filling time. For our use, on the kind of soil we have here, I like the mixture given above. The milo, feterita, and cane are almost sure to make a crop, and the cane contains moisture enough so that even if left in the field one day after cutting, no water is needed, providing it is cut in one-half inch lengths and is well tramped. Cutting the silage fine also makes it possible to get a greater amount of the crop in the silo.

It is hard to make an estimate of the cost of silage that will fit different seasons. The distance to the silo, and the kind of soil over which the loads must be hauled, make a great deal of difference in the expense. The cost of growing the crop also varies in different years. Our silage has cost us about \$2 a ton as an average, but we do not grow very large crops on our sandy land, and frequently haul silage from one-half to one and a half miles. Labor at silo-filling time is always on a harvest wage basis. We have our own engine and cutter and this enables us to start the work of filling when we are ready.

Preserving the crops in the form of silage greatly increases the amount of feed. One ton of silage will go three or four times as far as fodder from the same number of acres. The loss on shocked feed on our sandy land is at least 25 per cent, and this loss is the best part of the crop. There is practically no loss in the silo. I consider the silo the cheapest structure for the storing of rough feed.

We feed only to stock cattle and do no full feeding. I would not ask for a better ration for wintering stock cattle than silage, wheat straw, and a very small amount of cottonseed cake. This will bring stock cattle through in splendid shape.—ROY SMITH, Manager Stilwell Ranch, Edwards County.

### Need for Rural Credit.

Rural credits means money for the farmer.

Everyone understands that in a vague, indefinite sort of way.

But how is the farmer to get the money he needs—on what terms, what security, what rate of interest and for what length of time?

And why does the farmer need any special advantages not already provided under the present banking system?

Then what is rural credit?

To begin with, the farmer must wait upon the seasons. He cannot speed the earth upon its axis, or hasten it upon its course around the sun. His returns come when the seasons have run their course. He can borrow money at the bank if he has ample security, but he needs a longer time in which to repay the bank than does the merchant. The storekeeper borrows for sixty or ninety days. He turns his stock of goods in that time and can repay the bank. The farmer needs his loans for a longer period. He needs it when he puts the seed in the ground, but he is not ready to repay until the crop is grown, harvested and marketed.

Do not the banks give him the accommodations he needs?

Some banks in some communities do. But most banks find it more to their

liking to loan money on short time, sixty or ninety-day paper. They are lending the money of their depositors. They must have their loans so arranged as to the time when they fall due and are collectible that the depositor can get his money when he asks for it. Consequently, the banker prefers to loan these funds upon short-time paper. The short-time loan makes easier banking.

This limitation, inherent in present banking methods, makes it necessary to provide for an extension of the banking system. For agriculture is the great fundamental industry, and when the farmer needs money for his seasonal operations the welfare of the entire country requires that he should have it—and have it upon terms which do not lay upon him a greater burden than he can bear. European countries have met just these conditions and have worked them out to the salvation of the farmer and the benefit of all Europe. The banking system of Germany, France and Russia, of Denmark, Holland and Switzerland, of England, Scotland and Ireland, have been extended by the forma-

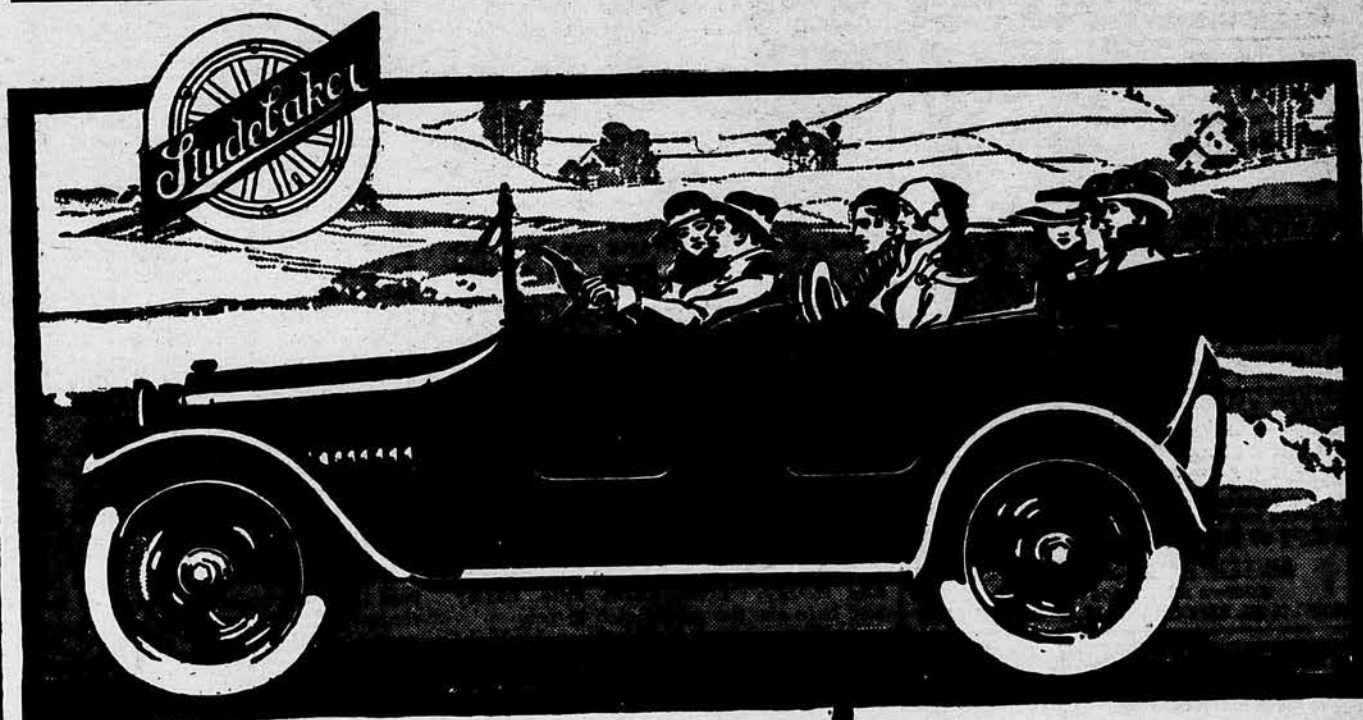
tion of co-operative credit associations. These co-operative societies, pledging the unlimited credit of every member, borrow of the banks and in turn reloan the money to individual farmers, many of whom are too poor and have too little security to enable them to secure even a small loan direct from the bank.

But this is personal credit. The money so provided is used for farm operations. What about the man who wants to buy a farm?

Europe has met and solved this problem also. Some states in this country, notably Wisconsin, have made some progress along the same line. In Wisconsin, it is possible to buy a farm and have twenty years or more in which to pay off the mortgage. The ordinary farm mortgage runs from five to ten years. And usually when it falls due, the farmer has to renew the mortgage or permit it to be foreclosed. And renewing a mortgage at a reasonable rate of interest is not any easy task, and often requires the payment of a commission to the agent who finds some one with capital to invest in the mortgage. And this is both expensive and discouraging.

In Wisconsin, there are several farm mortgage associations patterned after

the land banks of Germany and other European countries. The land mortgage association takes a mortgage on the land, deposits the mortgage with the state treasurer and sells the bonds to the banks. This is some red tape to be sure, but it operates to make of the farm mortgage a fluid security; that is, a security easily disposed of. The bonds are for \$100, \$500 or \$1,000, and they pass as other bonds, current for their face value. There is no need for looking up title to the land, as in the case of a mortgage. There is no need for inspecting the land as the underlying security of the bond. The state does all that. The land mortgage association guarantees the interest. The buyer of the bonds is protected by the regulations of the state upon the issuance of these bonds. A banker can buy them, and if he needs money to meet the immediate demands of depositors, he can pass these bonds on to another bank, or sell them to the clients of his bank who are looking for safe, gilt-edged investments. In either event, he can get the money on them any time he needs it. And that makes of the farm mortgage, on which the bonds are issued, a liquid security.—W. C. POWELL, Former Secretary of Wisconsin Board of Public Affairs.



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## Fundamentals of Feeding

**T**HE boys and girls who enter pig clubs must study principles of feeding. Here is some fundamental information prepared by Professor C. W. McCampbell of the agricultural college especially for club members, but valuable to all who would learn more of feeding animals:

"The functions of food are to promote growth, to repair waste of the body, to furnish heat and energy, and to store up or lay on fat. The nutrients that serve these purposes are protein, carbohydrates, fat, and ash of the digestible portions of the food eaten. A definite amount of each of these nutrients is required each day for the growing or fattening animal and when they are supplied in the required amounts a balanced ration is the result. An excess of one or a deficiency of another nutrient will not give satisfactory results; hence a brief study of each nutrient should be of interest.

"Protein substances, flesh builders, or growing feeds as they are sometimes called, are those which contain the element nitrogen. They are used in forming muscles and enter largely into the composition of the skin, tendons, blood, hair, internal organs, etc. They also act as an appetizer. No food substance that does not contain nitrogen can be substituted for protein; hence the absolute necessity for supplying feeds rich in protein for growing animals. Tankage, linseed oil meal, cottonseed meal, shorts, alfalfa, and clover are rich in protein.

"Carbohydrates or non-nitrogenous substances are those used primarily for the purpose of maintaining the body heat and to produce muscular energy and fat. Corn, kafir, milo, barley, and oats are comparatively rich in carbohydrates.

"Fat is present in feeds in smaller amounts than either the protein or carbohydrate substances. It is stored in the body as fat or used to help furnish heat and energy. Corn, kafir, milo, barley and oats are the grains rich in fat.

"Ash or mineral matter is used mainly for the purpose of building the bony frame work of the body. The principal mineral elements used are lime, phosphorus, iron, potash, magnesia, soda, and sulphur. Rations supplying proper amounts of protein, carbohydrates, and fats, usually contain sufficient amounts of ash; hence it is not necessary to make special calculations regarding the ash content of the ration used."

### Silo Saved Cattle Bad Winter.

My experience with silos and silage began five years ago when we built our first silo under the direction of G. C. Wheeler, then of Kansas Agricultural College, but now associate editor of KANSAS FARMER.

That summer we did not grow enough corn on 40 acres to fill the silo over two-thirds full, but we had enough to fully determine the added feeding value of the siloed crop. That winter was the most severe we had had in years and our cattle came through the winter in excellent condition on an average of 30 pounds of silage daily and all other rough feeds they would eat. People who were depending on dry feed, having to haul it from field, had a very hard time to feed stock, and in fact could not find enough to keep stock in condition, and many losses occurred.

Since that time we have never failed

to put up all the silage possible. Last summer we built another silo of the same type, giving us a capacity of about 280 tons, the silos being 16x33 inside. We took out three feet of dirt after silo was built 16x30, giving us very cheap extra space. I would not advise going deeper than this, however.

I have used very little else than corn for filling, and with a 20- to 30-bushel corn crop it takes between 50 and 10 acres to fill both of our silos. Last fall we used 40 acres of corn and 20 acres of cane. I am planning to fill entirely with cane and kafir next season, as I believe it will require less acreage and the filling expense will be less, as the sorghums are more easily put through the silage cutter. This I have found to be the case in silo filling which I have been doing the last two years. I have found that it takes more time to get corn through, as the stalks and ears catch or drag on feeding table, requiring a feeder all the time, while with the cane and kafir I do not need a feeder at all.

We always feed silage to all cattle. When we haven't wheat pasture, stock cattle are fed 20 to 25 pounds daily, and we try to get them to consume as much of the other feeds grown on the place, as possible,—such as fodder, straw, hay, etc. As we are not fortunate enough to have alfalfa, we do not get a balanced ration, as we should, but we manage to carry stock cattle through in good shape.

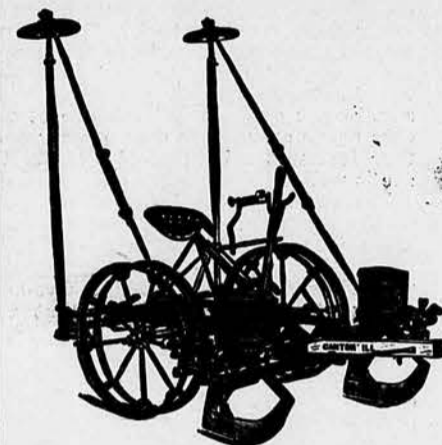
We have been fattening our steer calves each spring. We feed all the silage they will eat, and to balance the ration we use cottonseed meal and sometimes when corn is reasonable in price, we add ground corn. But ordinarily we make them as good as we can on silage and cottonseed meal, believing it the cheapest in the end. I made them good enough on such feed last year to bring nearly \$50 each by the middle of May.

Relative to cost of making silage, I find that one cannot fill for less than 40 cents a ton—that is, for engine, cutter, and usually a man for each of these machines. I have tried to fill for less, but one cannot and make reasonable wages and repair expenses and have his machinery paid for by the time it is worn out. The other expense depends on distance the crop must be hauled. The farther away the field is from the silo, the greater is the cost in proportion. Last fall I hauled from three-fourths to one and one-fourth mile, using seven teams costing \$5 a day for one man and four horses. In addition, two men were required to tramp the silage, and one man to help unload, at \$2.50 a day, making a daily cost of \$42.50 a day aside from board and horse feed. As I usually fill two 16x33 silos in three days—the filling cost is \$127.50—plus 40 cents a ton (280 tons estimated capacity, as that is basis I figure on) \$112, total \$239.50 for making 280 tons silage hauled this distance. Had my field been close or silo built in the field, as some are doing, I could have gotten along with only four wagons.

In closing, I will say I am very well pleased with the silo and believe I would quit feeding cattle if I had to go back to the old way. During my experience of five years have never had any cattle off feed, have had no deaths from feed, and have not purchased any false teeth for them.—A. L. BEELEY, Comanche County.

## P&O Variable Edge Drop Corn Planters

Furnished with 30 or 36 inch wheels, concave or open center, adjustable to all standard widths with wire to match, according to local requirements. Can be furnished with Flat Drop Attachment, Fertilizer Attachment, or Pea and Bean Attachment. Double disc markers. A perfect stand of corn is assured with a P&O Planter. "It's the Way We Build Them."



The variable drop can be changed instantly, without stopping the team, to plant 2, 3 or 4 kernels to the hill. The simplest variable drop found on any planter; easily operated from the seat; the driver operates it with his foot. Ample tongue adjustment for any sized team. Reel can be used on either side. Large hoppers, easily tilted to change plates or remove corn; plates can be changed without emptying hopper. Hoppers are the combination type; flat drop plates may be used. Can be instantly changed from variable hill drop to variable drop drill. Sight feed, without glass; unobstructed view.

Regular runners, stub runners or disc furrow openers can be furnished. Dropping mechanism perfect; congestion is impossible; valves carry one hill in reserve and hill cannot be doubled. Plunging motion of lower valve forces seed out without scattering. Cushion spring at end of the tongue keeps the proper tension on front frame in uneven ground. Every planter is actually tested with seed in the hoppers before leaving the factory. P & O Planters are the simplest and strongest made.

We also make Flat Drop Planters and Drills, Bean Planters and Kafir Corn Seed Plates.

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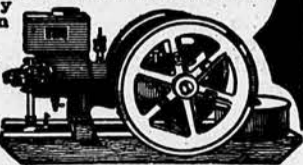
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HOG-KILLING SCENE IN MISSOURI.—LITTLE BUYING OF STORE MEAT ON THIS FARM

## Duroc Jersey Futurity For Kansas

**A** FUTURITY show of Durocs is assured for the Topeka State Fair this year if the breeders will make the necessary nominations. Four hundred dollars will be distributed in prizes. Eight awards will be made for spring pigs, both boars and sows, ranging from \$35 for first to \$5 for eighth. The same number of awards will be made on a litter of four pigs, the prize for the first being \$35 and the eighth \$8. A \$50 trophy is also offered by the Duroc Bulletin Company.

The National Duroc Jersey Record Association guarantees these premiums under the following conditions:

a. An appropriation of \$100 to the Futurity Fund by the Fair Association where the show is to be held. This has already been pledged by the Fair management.

b. Twenty herds to be nominated in every futurity at \$5 each, and these nominations must be made by breeders of the state in which the futurity is held, or from adjoining states where there is no futurity show. Herd nominations close March 15, 1916.

c. A second payment of \$1 will fall due June 1, 1916, on each litter from a nominated sow which it is desired to keep eligible in whole or in part.

d. A third \$1 per pig will fall due on August 1, 1916, for each pig you desire to show.

e. All payments are due in cash on or before dates specified. Failure to make payment when due forfeits all sums previously paid in and shall automatically declare any entry void and out of the futurity.

f. All dollar payments when duly made on litters and individual pigs shall qualify each and every pig in each and every litter for exhibition in the futurity show. A nominator makes only as many payments as he deems advisable. There shall be no refund after an entry has been accepted as in the stakes, but nominators incur no future liability by making any payment and all nominations may be dropped at will.

g. All payments in this futurity must be made direct to the National Duroc Jersey Record Association, Peoria, Ill. The rules governing the futurity are as follows:

1. Farrowing date of spring pigs will conform with the rules of the fair association where futurity is held.

2. A litter consists of four pigs of either or both sex, farrowed by one sow.

3. Should a nomination be made in a state which failed to comply with conditions to secure a futurity, the nominator has the option of having the nomination fee returned or to continue payments for the purpose of exhibiting at a futurity in an adjoining state. Not more than one futurity will be provided for in any state.

4. The litter payment due on June 1, 1916, must give the name and record number of the dam of each litter on which payment is made. Credit for payments will not be given unless name and record number of dam of each litter is given.

5. The individual pig payment due August 1, 1916, must give the name and record number of each pig on which payment is made. That means that each pig must be recorded before this payment is made.

6. It is understood that in order to be eligible to compete for prizes in the futurity, each pig must be recorded not later than August 1, 1916. Registry certificate for each animal shown in a futurity will be required.

7. An exhibitor can exhibit at only one futurity and this must be in the futurity in his state. Should the futurity not fill in his state, he is permitted to show in a futurity in an adjoining state.

8. Substitutions will not be allowed, but nominations are transferable up to and including the date of making the final litter payment to the extent that once nominated and properly transferred from owner to owner, and the payment duly kept up, any litter or any pig in any litter may be exhibited, irrespective of the number of times it may change hands.

Here is a chance for Duroc Jersey breeders to give this breed a big boost in popularity. There surely are twenty breeders in Kansas who will make the nominations as required.

### Federal Report on Farm Animals.

In the report of animals on the farm in the United States January 1, 1916, just made public by the Department of Agriculture, the following changes are noted as compared with January 1, 1915:

In numbers, horses have decreased 29,000; mules increased 86,000; milch

cows increased 726,000; other cattle increased 2,386,000; sheep decreased 794,000; swine increased 3,429,000.

In average value per head, horses decreased \$1.73; mules increased \$1.51; milch cows decreased \$1.43; other cattle increased \$0.11; sheep increased \$0.67; swine decreased \$1.47.

In total value, horses decreased \$39,634,000; mules increased \$16,553,000; milch cows increased \$8,781,000; other cattle increased \$83,759,000; sheep increased \$29,661,000; and swine decreased \$65,589,000.

The total value on January 1, 1916, of all animals enumerated above was \$6,002,784,000 as compared with \$5,969,253,000 on January 1, 1915, an increase of \$33,531,000, or 0.6 per cent.

Is the farm machinery in readiness for spring use? Remember how much every

day counts when the spring work begins and what a drawback it is to have to stop to overhaul a machine.

### Cost of Carrying Water.

Twenty-five gallons of water is the average daily house use on most farms. It should be 150 gallons. To carry 25 gallons means at least five trips, and if these trips are up a hill 12 feet high, as is often the case, a 160-pound man does as much work in carrying his body up the hill for 25 days as is required to dig and wall a well 4 feet in diameter and 12 feet deep. Most wells are about 50 feet deep; then in four months' time a man has done sufficient work in carrying water up a 12-foot hill to dig a well and wall it right at his back porch, and in ten years he has wasted 30 wells and still has no well.—Department of Agricultural Engineering, University Farm, Nebraska.

One of the greatest monuments to dairying is that every year many prac-

tical, thoughtful men are making a study and a business of it, and their work is bringing very satisfactory returns. The principal arguments for dairying are that it is a year-round business and there is no top to the ladder. One man no sooner reaches the top than another compels him to step aside that he may pass.

There is gold in milk. The surest way to get it out is to use a good separator.

Don't purchase the lowest-priced seed. In nine cases out of ten the highest-priced seed is by far the cheapest. The seed doesn't cost much in proportion to the labor put on plants, once they start.

### Readily Forgiven.

"Elsie," said her mother to a little five-year-old who had just finished saying her prayers, "did you ask God to forgive you for being naughty today?" "Yes, mama, I did," replied the child, "and God said, 'Great Scott, Elsie, there's lots of 'em worser'n you are!'"

# Hudson Super-Six

Patented by Hudson  
December 28, 1915  
Patent No. 1165861

## 80% More Efficiency

### World's Record Breaker—New Limits of Endurance

**H**UDSON this year brings out the greatest feature ever offered in a car. It is the Super-Six motor—a Hudson invention, controlled by Hudson patents.

This motor, in official tests, has broken all world's touring stock-car records. In a startling way it has outrivaled Eights and Twelves.

It has added 80 per cent to a motor's efficiency, without adding size or cylinders. And has proved itself the most powerful motor of its size that the world has ever known.

### HAS 76 HORSEPOWER

The Super-Six motor is small and light, simple and economical. It is the usual Light Six size.

But this size of motor heretofore delivered only 42 horsepower. In the Super-Six the same size delivers 76 horsepower. That means 80 per cent more reserve power.

Yet the motor involves no experiment. The only new feature is our patented method of wiping out vibration.

### Saves the Waste

This size of motor is legally rated at 29.4 horsepower. It actually creates about 85 horse-power.

Heretofore it delivered about 42 horsepower. Half the power created was lost in friction caused by vibration.

Now that same-size motor, with same fuel consumption, is made to deliver 76 horsepower. All because we have ended vibration.

We have made the smoothest-running motor in the world.

### WHY YOU'LL WANT IT

In usual running you don't need 76 horsepower, but there is many a time when you do. It makes hard roads easy. It climbs hills without effort. It means quick acceleration, marvelous flexibility.

When you don't need it you simply run at half load. And a half-taxed motor saves you gasoline and oil.

Note that this extra power—this reserve power—is just the power which, in other motors, is wasted in vibration.

This smoothness means bird-like motion. You never saw such quiet, effortless performance. And it means doubled endurance. There is almost no wear on the motor. Our most grueling tests—one of 7000 miles—have shown no sign of wear on any part or bearing.

Have the nearest Hudson dealer take you for a ride. Note the marvelous performance. It will make you a Super-Six enthusiast.

You will not want an ordinary Six when you prove the Super-Six nearly twice as efficient. You will not want a lower-priced Six when you see what the Super-Six saves you. You will not want an Eight or Twelve when you see that a Six, with less weight and less cylinders, vastly outperforms it.

You will want the Hudson Super-Six. And the luxurious bodies, built without regard to cost, will make it seem doubly attractive.

Go and take a ride.

7-Passenger Phaeton

**\$1375**

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Five Other Body Styles

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### World's Record Breaker All Records up to 100 Miles

These tests were made at Sheepshead Bay with a 7-passenger Super-Six—a touring stock car—under official supervision of American Automobile Association.

**100 miles in 80 min., 21.4 sec., averaging 74.67 miles per hour, with driver and passenger.**

**75.69 miles in one hour with driver and passenger.**

Two laps made at 76.75 miles per hour.

**Standing start to 50 miles per hour in 16.2 sec.** A new record in quick acceleration.

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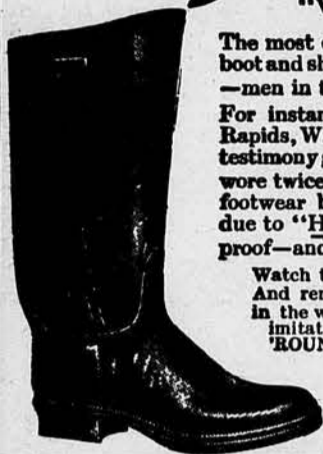
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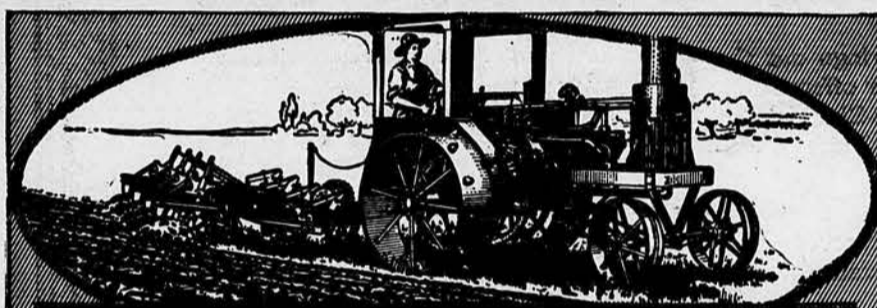
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READ KANSAS FARMER'S CLASSIFIED  
ADVERTISING PAGE FOR READY BARGAINS

## Stock Judging Contests at Fairs

Excellent Means For Teaching Boys and Girls the Points  
Which Determine Whether an Animal is Good or Inferior

THE following suggestions for furthering the commendable work now being done along the line of boys' and girls' contests, are offered by Carl P. Thompson of the extension division of Kansas Agricultural College:

"One of the main objects of the various county fairs held each year in the state, is to promote or stimulate interest in better agriculture and especially better live stock. To do this, the fair associations offer each year thousands of dollars as premiums in the various classes of live stock and farm produce. This encourages the breeders of good stock to bring it out to the fair to put it in competition, to have it compared with those of his brother breeder and have it passed upon by a competent judge. This practice is deserving of the highest commendation as it gives the men who show their stock inspiration and encouragement to go on and improve their herds. Many of the spectators, who go through the barns by the thousands, or watch the stock as it is being placed, here get inspiration and go home determined to breed up their herds and feed their stock a little better.

"While this is all good and commendable, I believe we are overlooking one of the most important functions or duties of our county fairs. We are coming to realize more and more each day that the future improvement of our farming operations, as well as our live stock, is going to depend to a large extent upon the rising generation—the boys and girls. Only a very small per cent of the boys and girls of Kansas will ever have an opportunity to attend an agricultural college. How can they be expected to make much improvement in live stock over which they may soon have control, if they do not at some time in some way have an opportunity to study the judging or selecting of live stock? In studying stock judging, the boys and girls are taught not only what are the desirable points of an animal and where to find them, but why such points are important. They learn the bad qualities of an animal and why certain things are undesirable and how to avoid them. Such a training not only enables the boy or girl to select wisely, in buying, but it enables them to improve or breed up their herds by intelligently selecting the best individuals they produce and properly mating them, and this is vastly more important. My experience in conducting boys' and girls' judging contests at county fairs and farm and home institutes, proves to me beyond a doubt, that the boys and girls of Kansas are not only willing but anxious and eager to learn how properly to judge and select the various classes of live stock.

"I do not believe that any other organization or group of organizations can reach as many boys and girls as can the numerous county fairs over the state, and I believe the various fair associations would find it to their advantage to set aside a small sum of money to offer as premiums for boys' and girls' live stock judging contests at their fairs next fall. As a suggestion as to what such premiums should be, I might say that in counties where breeders of pure bred stock will sell them reasonably, a pure bred pig, calf or sheep might be offered. A very valuable prize that is often given, is a free trip to the agricultural college during Farm and Home Week. In other cases, cash premiums can be given, and attractive ribbons should always be provided.

"If the Kansas State Agricultural College is notified early in the season it will provide a competent live stock judge for as many points as possible, this judge to conduct the contest the week of the fair. The only expense for the contest work will be the traveling expenses of the judge. The same man who conducts the contest often may act as judge for the live stock at the fair. In such cases the only additional expense will be the regular five dollar fee. The stock for judging purposes could be selected from that on exhibition at the fair. All boys under twenty years of age, residents of the county or district in which the fair is held, are eligible to enter the contest, provided they have not attended an agricultural college. Entrance blanks will be furnished by the agricultural college and each boy or girl must fill in the blank with the name of the secretary of the fair not later than nine o'clock of the morning or mornings set for the contest to be held. No fee will be charged for entrance to contests.

"Before placing the animals, the man

in charge will give instructions for judging each class of stock. The contestant will be required to place the class and write on a blank furnished for that purpose, his reasons for so placing. The judge will then place the classes and give his reasons.

"The fair association should announce the boys' and girls' judging contest in its circulars and premium list and should also advertise it in the papers several weeks before the fair. Any boy or girl who expects to take part and who will write the extension division of the agricultural college, will be sent information on stock judging. The classes of stock to be judged should be draft horses, beef cattle, dairy cattle, and hogs.

"While each fair association may arrange its own premiums for these contests, I would suggest the following as being very satisfactory: First premium in all classes, \$5, the honor to be designated by a blue ribbon; second, \$3, red ribbon; third, \$2, yellow ribbon; fourth, \$1, white ribbon.

"For the boy or girl proving the best judge of all classes of stock, a free trip to the Farm and Home Week at the agricultural college, Manhattan, Kan., or a pure bred calf, pig, or sheep, should be given.

"There should be a boys' and girls' live stock judging contest held at every county or local fair in the state this fall and any fair association contemplating adding such contest should write to the Division of Extension, Agricultural College, Manhattan, Kan., as soon as possible, to secure further information and the services of a man to conduct the contest."

## Kansas City Tractor Show.

A farm tractor show will be held in Kansas City, Mo., February 7 to 12 inclusive, by the recently organized Kansas City Tractor Club. Kansas City is one of the big distributing points for farm tractors of all kinds, and all makes of tractors will be shown. The exhibits will be housed in a large double-walled tent located one-half block east of the Union Station. It will be properly heated and well lighted.

The annual automobile show will be held the same week in the J. I. Case Building. Visitors can thus attend both shows on the one trip.

## Co-Operate in Saving Ice.

Co-operation should be practiced among Kansas farmers in putting up ice for home consumption.

Several principles are involved in keeping ice. There should be good under-drainage to carry off water as the ice melts, for water is a conductor of heat. Water melts ice much faster than does air. Perfect ventilation above the ice is required to keep the covering of the insulating material as dry as possible. If wet, the covering forms a conductor of heat.

Ice must be well packed to prevent the circulation of air between the ice cakes. Good insulation at sides and bottom must be provided.

## CYPRESS IS ROT-RESISTANT.

An ice house 14 feet long, 12 feet wide, 10 feet high from ground to eaves is of good size for the average farm. Materials that may be used are stone, brick, concrete, or wood. Wood is better in many ways although it has one objection—the tendency to rot. Cypress is a rot-resisting wood. Concrete is good for the foundation and should extend below the frost line and from 1 to 1½ feet above the ground level so the sills will always be dry.

Unless the soil is well drained, some artificial method is necessary. Tiling or ditches filled with rocks or broken brick will do. It is well to spread a layer of small rocks or clinkers or similar material over the floor. A layer of straw should come next, although sawdust is often used instead.

## DOUBLE WALLS DESIRABLE.

The walls may be either single or double. Single walls of matched boards covered with paper on the outside are good. Double walls are much better, however, on account of the better insulation.

In building the double-walled house the paper is put on the two by four uprights with boards on both sides. This leaves a four inch dead air space and if this air space is partitioned every three or four feet with a strip of tarred paper the insulation will be even better because there will be no up and down circulation. Sawdust is often used for filling this air space.

The roof may be almost anything

that will turn water, keep off the sun, and provide ventilation. To insure the last, small doors near the top at both ends will suffice for the small ice house. If these doors are left open occasionally on dry days, the resulting air currents will aid in the removal of the warm, moisture-laden air.

#### TO MAKE ICE KEEP.

Place the first layer on edge and the others in a horizontal position. Every third layer—regardless of how packed—should be placed so that the divisions will not coincide with those in adjacent layers. Pack the ice to within eight or ten inches of the walls. Space left should be filled with sawdust, if obtainable, although straw will do. Each cake should be left about an inch from its neighbor on either side and a top layer, eight to twelve inches deep, of sawdust or straw should be placed over the top.

The ice house described is almost entirely above ground but there is another type partly above and partly below ground and still another that is almost entirely below ground. As a rule, the first type can be more easily and economically built. A ton of ice occupies approximately from thirty-five to forty cubic feet, and four or five tons is usually all a single family will use in a season. Where the cost of ice is small, a cheaper shed can be used with a relatively high loss of ice from melting. If, on the other hand, the cost of ice is high, it is better to build a more expensive shed, for the loss from melting will thus be lessened.—F. A. WIRT, K. S. A. C.

#### Threshing Sudan Grass.

H. F. B., Marshall County, read in KANSAS FARMER recently of the trouble one of our Colorado readers was having in threshing his Sudan grass. He writes that he cut the two acres which he grew this year, with a corn binder and shocked it as he would wheat. In October when he threshed his wheat, the Sudan was thoroughly dry and it was threshed without difficulty with the same machine that threshed the wheat. The riddles were simply changed and arranged as for threshing headed cane. Some of the grass was nine feet high, but it was dry and went through the machine and the straw was blown into the hay mow. Our correspondent says no one need be afraid to put it through the threshing machine if it is dry and proper caution is exercised in not feeding it into the machine too rapidly.

#### Kafir Forage for Lambs.

N. E. M., Jewell County, asks if sowed kafir forage is a good feed for lambs. He is planning to fatten two thousand lambs and wishes to use this kafir as roughage.

Lambs can use a reasonable amount of such roughage, but it will not make anywhere as near as satisfactory a roughage for fattening as will alfalfa. Lambs cannot use to good advantage, such low grade roughage as cattle can use. They need a ration fairly rich in protein and if no alfalfa is fed the protein allowance would have to be supplied in the form of oil meal or cottonseed meal. Kafir silage would be much better roughage for the lambs than would the dry kafir.

#### Corn Growing in Kansas.

Bulletin No. 205, entitled growing corn in Kansas, is one of the most practical and useful publications that has been issued by our Kansas Experiment Station in recent years. It is partly based on experimental work on the station farm, but a great deal of valuable information is given as a result of careful studies that have been made of the practices of the best farmers in various sections of the state.

Kansas ranks sixth in the state of the Union in the production of corn. The average acre yield for the ten-year period 1905-1914, was 19.6 bushels. According to the statements made in this bulletin, a yield of from twenty to twenty-five bushels an acre will be required, under average conditions, to pay the actual cost of production, when the producer is allowed a fair wage for his labor, proper compensation for depreciation of machinery, and a reasonable rate of interest on his investment. The average Kansas corn grower is evidently working for a very low wage.

Plans should now be under way for the growing of the corn crop of the coming year, and this bulletin should be in the hands of every corn grower in the state. We would urge that they not only secure a copy but carefully study the contents. The following summary sets forth, briefly, the principal facts given in this pamphlet:

The low acre yield of corn in Kansas is due primarily to growing this crop under conditions to which it is not adapted.

Corn thrives best on deep, fertile, friable loam soils, where the climate is warm and humid, with frequent showers and plenty of sunshine. It is easily injured by drouth and hot winds.

The average acre yield of corn in Kansas has steadily decreased, primarily because of depletion of the fertility and the humus of the soil and lack of crop rotation.

Rotations including corn, small grains and a legume are most practicable for most Eastern Kansas farms.

Home-grown seed of an acclimated variety, suitable in size and maturity and of good quality, gives best results.

The popular opinion that it is necessary to change seed every few years is erroneous, provided the seed is properly selected.

Two general methods of planting corn are practiced in Kansas, namely surface-planting and listing. The two methods are each adapted to certain conditions, and are superior one to the other only when the conditions to which they are respectively adapted exist.

The listing method of growing corn is adapted to regions having limited rainfall and light types of soil. Listed corn can be planted and cultivated more readily and cheaply than surface-planted corn, and is more drouth-resistant.

The surface-planting method of growing corn is adapted to regions having abundant precipitation and heavy types of soil. Surface-planted corn is not so

susceptible to damage from heavy rains as is listed corn, makes a quicker and more abundant growth, and under favorable conditions develops a larger capacity for production.

Early and thorough preparation of the seed bed for corn usually results in profitable increases in yield.

The best time to plant in Northern Kansas is from May 1 to May 20; in Southern Kansas from April 10 to May 1.

Much of the corn grown in Kansas is planted too thick. Under average conditions, a stand that will average one stalk every twenty-one or twenty-four inches in Eastern Kansas, and every thirty to thirty-six inches in Western Kansas, is sufficient to produce maximum yields. Early-maturing, small-growing, varieties should be planted thicker than large-growing, late-maturing varieties.

Experiments show that from four to six cultivations are as many as can usually be applied to corn with profit. The opportuneness of the cultivations is more important than the number.

Deep, late cultivations that result in the destruction of many corn roots, may do more harm than good.

Reasonably dry corn, when kept under the best of conditions, will shrink in weight from 5 to 15 per cent when stored for a period of six months or more, depending on the condition of the corn when cribbed, and the seasonal conditions that follow.

The vitality or germinating power of the seed planted has much to do with the yield. A high degree of vitality in seed corn is indicated by firm ears and bright, glossy kernels.

Seed corn should be selected in the field after the corn is mature and before the first hard freeze occurs, and should be thoroughly dried before it is subjected to freezing temperature.

A germination test should always be made to determine the vitality of the seed planted.

#### Saved Over a Mile a Day.

The rearrangement of the barns and yards on one Nebraska farm has been able to save the operator 1.75 miles walk between the house and barn each day without increasing the labor of doing other work about the yards and without bringing the barn too close to the house. The agricultural engineering department of the College of Agriculture which suggested the rearrangements has made similar savings on other farms in Nebraska, plans of which are on file in the office of that department. A list of these plans, together with a brief description, may be obtained upon request.

Don't forget to clean up the orchard and cut out the borers. All dried fruit remaining on the trees should be removed as this harbors diseases and may greatly lessen the value of the new crop.

# Announcing RUMELY "8-16" \$750 CASH F.O.B. La Porte

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**Control**—Full control of entire outfit from operator's seat.

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**Roller Bearings**—Roller bearings exclusively used throughout.

**Heavy-Duty Engine**—Four-cylinder, heavy-duty engine—Rumely made.

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This new Rumely model has met with instant success because it fills *all* requirements for a small farm tractor—and it is built by a company that *knows how*.

It is strictly a one-man outfit—tractor and plows are combined in one machine, and the control of the entire outfit is from the operator's seat.

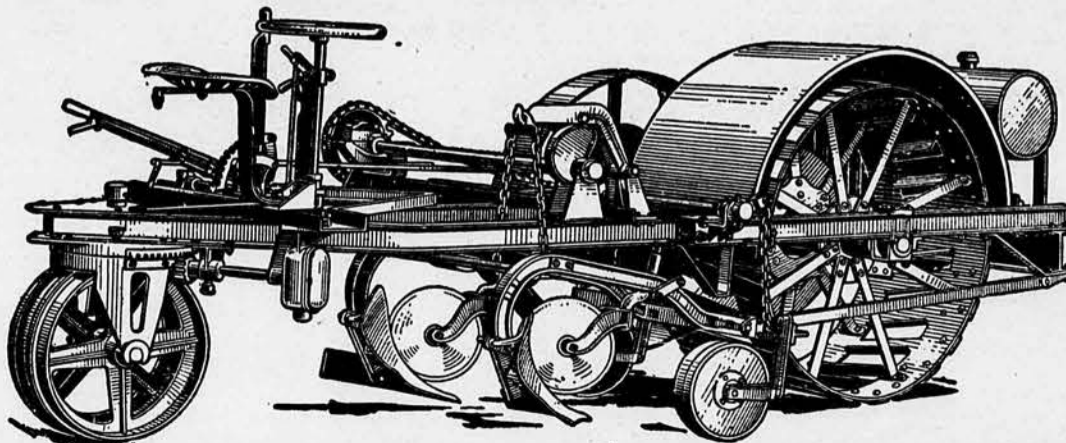
With the Rumely you plow just the same as with a horse gang—the plows are where you can see them and you know how the outfit is working every minute. You can back with your plows, make short turns and cut square corners.

Besides plowing, this tractor will pull your discs, harrows, mowers, drills and binders—it will operate your silage cutter, hay baler, corn sheller, small separator and feed grinder. In fact, handle all your power jobs, draw-bar or belt. When used for other than plowing, plows are quickly detached.

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Suppose you got an extra milk check of \$25 to \$50 every month. 'Twould be only equal to the saving you'll receive if you install a

## Hinman Milker

Then you can milk your cows at one-third of the time and expense because each Hinman unit takes the place of a hand-milker. A three-unit outfit enables a man, or even a boy, to milk at the rate of about 25 cows an hour, and weigh and record the milk. The milk will be cleaner than by the hand method. Hundreds of dairymen report that the milk yield is increased by the Hinman. Hundreds of others are saving the expense of hired men.

The Hinman Milker has been awarded six gold medals and diplomas, including the gold medal at the Panama-Pacific Exposition, but the most gratifying honor of all is the number of Hinmans in every dairy vicinity.

May we send the names and addresses of Hinman users living nearest you, so that you can let them tell you in their own words what the Hinman will save you?

Over 300,000 cows are milked daily with Hinman's.

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## Working Up to Pure Bred Herd

FEW farmers in Kansas have given more thought to weeding out the poor cows and breeding up a profitable grade herd of dairy cattle, than Harry D. Burger of Nemaha County. Some seven years ago Mr. Burger was milking twenty-three Shorthorn cows that he thought were good ones, but no records had been kept on them. He wanted definite information and began to keep records by weighing the milk and making butter fat tests. Before the end of the first year only twelve cows were left, the others being so poor in milk production that in spite of the fact that they were good beef cows, they were shown to be unprofitable.

Of the original twenty-three, only four were retained as being the sort for foundation stock. These four cows, the yearly average of which was 448.7 pounds of butter, were bred to a good registered Holstein bull, and to bring the herd up to a good workable size six unregistered Holstein heifers were purchased in addition to the four Shorthorns retained.

These six Holstein heifers have proven their worth by producing an average of 470.3 pounds of butter each, in one year, under ordinary farm care. From this foundation the herd of females has increased to nearly fifty head, about half of the number being of milking age and of high production.

Not being satisfied with grades, even of such high production, Mr. Burger bought a few registered Holstein heifers, and these have now increased in numbers till he finds it necessary to sell his entire stock of grades to make room for the fast-increasing herd of pure bred. This is a typical case of how a real dairyman gradually developed, not only his herd, but his own ability to handle better cows.

## Saving on the Ration.

"Too many dairymen, especially those just beginning the business," says L. L. De Bra in the Pacific Dairy Review, "do not realize the importance of making a thorough study of the feed question. This is the opinion of a well known California dairyman with whom I talked the other day. I asked him how he could afford his three hired men when he was not feeding more cows than his neighbors, who had only one or two men. In reply, he showed me how he saved the wages of one man by giving his personal attention to feeding the cows."

"A saving of only five cents a day on each cow amounts to \$1.50 a month," he said, and that figures up to \$45 a month for thirty cows. The \$45 will pay for the hired man, and I always arrange the work so that the hired men pay me well for the investment."

"I attended the Agricultural College at Berkeley for awhile, and while there I made a special study of feeds. A cow, you see, requires considerable more attention than a work horse when it comes to feeding, because with the cow the nature and quantity of milk the cow will give and your profit or loss on the investment, whereas the old horse usually manages to stumble through his daily work whether he is fed right or not. There are feeds that will keep a cow

alive—many of them. There are feeds that will keep the cow alive—and healthy. And there are feeds that will not only keep the cow alive and healthy, but will also stimulate the secretion of the largest possible quantity of milk. The wise dairyman, after getting the best cows his purse can afford, will make it a special point to study their individual feed requirements and give them the kind and quantity of feed that will prove the best investment. And this cannot be done by guesswork. It requires constant study and attention. The feed question, the selection of the most profitable ration, is not a matter that can usually be trusted to the hired man. It is a proposition where the boss himself, should be on the job all the time.

"With the ration decided upon, a little study of the markets will usually pay well, at least it does me. Prices of most feeds vary from time to time. I buy in large quantities and pay spot cash. That not only enables me to buy cheaper, but it also leaves me in a position to take the advantage of bargain prices because, with plenty of feed always on hand, I can buy when prices are low and I very seldom have to buy when prices are high."

"And I suppose that the average small dairy finds it best to buy mixed feeds, but I don't take to them myself. The basis of all these wonderful mixed feeds are just common mill feeds or alfalfa meal. I buy the straight mill feeds and I buy molasses by the barrel. Then I mix up my feeds to meet the requirements of the ration I am feeding. No, I don't go much on alfalfa meal at prevailing prices."

## Milk Production Requires Feed.

It is easily possible for the herd with the big feed bill to return the highest net profit. Economy in milk cow feeding does not necessarily mean keeping the cost of the ration down to a minimum. If this were true, the best ration that could be fed would be barely a maintenance ration and no one would expect any production from so meagre an allowance. The cow that has capacity for turning feed into milk, must be supplied with a liberal milk-producing ration in order to return the most profit.

We were recently reading the story of the development of a cow that held a state record for production. She was first purchased as a two-year-old for \$65 and was then regarded as only an ordinary dairy cow. Her owner began to feed and care for her in the best manner possible and the cow responded with phenomenal production. This man has

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General Agents, 1225 W. 11th St. Kansas City, Mo.



## Only \$2 Down One Year to Pay!

**\$24** Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in four larger sizes up to 5-1-2 shown here.

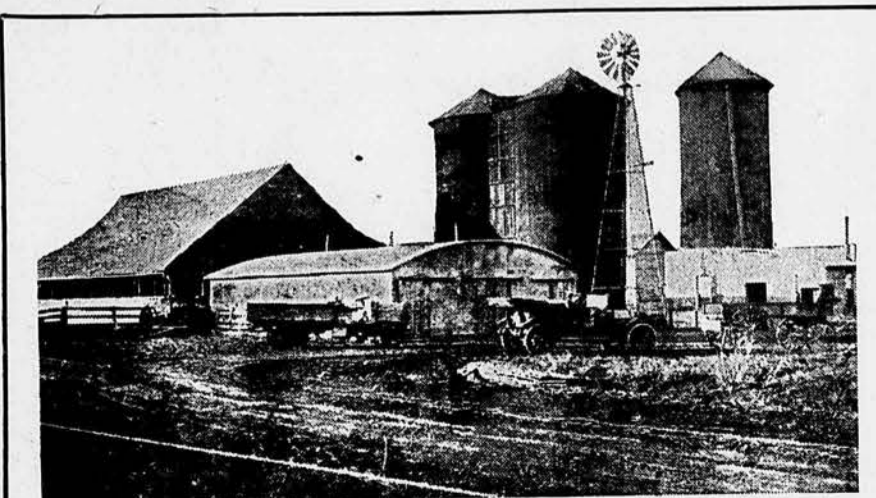
**30 Days' Free Trial** Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and direct-from-factory offer. Buy from the manufacturer and save money.

**ALBAUGH-DOVER CO. (INC.)**  
2181 Marshall Blvd. CHICAGO No. 614

## Ditching and Sub-Soil Plow

This plow will save you more money than any other implement on your farm.

Send for Descriptive Circular and Prices  
**LARIMER COMPANY, EOLA, ILLINOIS**



WELL EQUIPPED DAIRY FARM OF W. G. MERRITT, BARTON COUNTY  
—SILAGE GREATLY CHEAPENS THE COST OF MILK PRODUCTION

been dairying for a good many years but it took him ten years to learn that the secret of success in the dairy business lay in developing a high class herd and feeding the animals in production to their capacity for production.

#### Dairying Gives Winter Job.

In practically every business there are dull seasons of the year when little profit is coming in. This is true of farming, especially some types. Some farmers seem to enjoy these dull periods rather than seeking to employ their time in a profitable manner.

Those who milk cows can make money even during the winter months. The weekly income may seem small but it is steady. Doing the heavy part of the dairy work during the winter season, fits in nicely with the farm work, since during the season of the year devoted to crop production there is little time for other chores than those which must be done in connection with the general farm work.

Another excellent reason for winter dairying is that the prices for dairy products are invariably higher at this time.

With a silo for storing feed, the winter dairyman can produce milk as cheaply as he can in the summer.

It does not require very much time to care for a milk cow, and when it is considered that this expenditure of time brings a daily return of a pound of butter fat worth twenty-five to thirty cents, the profitability of the business can readily be understood. No other labor on the farm is paid for at a better rate than that spent in feeding and milking good cows.

#### Breeding Will Tell.

Seeing a lot of highly productive dairy cows is a great source of inspiration to those whose only experience has been with ordinary animals. One of the famous herds of dairy cattle in the country is the one that has been developed at the Missouri Experiment Station. During the recent farmers' week, the demonstrations of the value of breeding in this herd, was one of the big features of the week. This herd has grown from a beginning consisting of four Jerseys, four Holsteins, three Ayrshires, and three dairy Shorthorns. There are over 90 animals in the herd today, all high producers and every one descended from this original stock. This herd represents a number of years of careful breeding work. The sires used have been given careful consideration. Nothing has been done that is out of reach of the dairy farmer who would improve his herd and bring it up to a high state of production.

#### World's Record Ayrshire.

A ten-year-old Ayrshire cow has just produced over 25,000 pounds of milk in one year. She is due to freshen in a little over two months and at the time of drying off was giving fifty pounds of milk daily. This cow Garclaugh May Mischief, is owned by Percival Roberts, Jr., of Jennysylvania. The total butter fat production for the year was 894.91 pounds.

During this test the cow consumed \$177.46 worth of feed. It seems almost incredible that a cow could consume in one year all the feed with which this animal is charged. Such a feed record serves to illustrate the wonderful capacity of the dairy animal for converting feed into milk. If all the milk produced had been sold at six cents a quart, the profit for the year over the cost of feed, would have been \$529.34.

#### Silage Cheap Dairy Feed.

There is no cheaper rough feed for the milk cow ration, than good silage. Every dairyman of experience advises feeding milk cows all the roughage they will consume. Roughage is the cheap part of the ration and it is in the interest of economy to use roughage to the fullest extent possible in milk production. The cow is built for handling bulky feed but even with all the efficiency of the digestive system of the average dairy cow, the palatability of the feed is a matter of great importance. A ton of silage costing two dollars will supply nearly all the roughage a dairy cow will consume in three months. This makes the monthly cost of this main portion of the ration less than seventy cents. No other form of roughage is so efficiently used as is silage. No nutrients are added by placing forage in the silo, but those it contains are so much more easily digested that the net amount available for the production of milk is much greater than if the same forage had been fed in the dry form.

#### Silo Survey in Missouri County.

In Missouri as in Kansas the silo has been found to be a great feed saver every year, but it has been especially

valuable in preventing the loss of soft corn, and in increasing the usefulness of the crops of the last few dry years.

I. F. Gillmor, county agricultural agent of Marion County, Missouri, believes that a valuable part of his service to the people whom he represents is to find out just what good things the best farmers are doing and let others know about them. In pursuance of this idea he made a careful silo survey of his county, finding 200 silos, of which 118 are wood stave, twenty-nine solid concrete, twenty-seven flooring stave, six vitrified tile, six concrete stave, four pit, two brick, two concrete block, one modified gurler, and one stone.

The silo has proved itself a success under Marion County conditions, and the builders have decided that they are to be a permanent feature of farm equipment.

#### Paid for Itself in One Year.

I have a silo, 18 by 30 feet, and am now using out of it for the fourth time. I have used corn exclusively for silage. My silo paid for itself the first year.

The first year the corn would have made about 20 bushels an acre—it required 30 acres to fill the silo.

The second year I put in 40 acres of immature corn with no corn at all in it. This corn was struck by hot winds and would have been of almost no value outside the silo. It was put in when in the roasting ear stage, and made palatable feed. I fed this to 50 head of yearling steers and they gained 2.4 pounds a day for 125 days. They consumed on an average 40 pounds silage and 1½ pounds cottonseed meal and had free access to wheat straw. This same year I bought some silage at \$4 a ton and my 150-ton proved to be worth as much.

The third year my corn was struck badly by the hail and would have made about seven or eight bushels an acre. It took 25 acres of corn and weeds to fill the silo. I fed about three-fourths of this and then refilled the silo with corn fodder. This feed was not satisfactory, however, as the stock did not like it and gained only enough to pay for the cottonseed meal I fed while they were eating it. I put all the water on it that the blower would carry, but it was still much too dry. If I had fed the good silage and then sold the cattle it would have been more profitable.

This year I have 38 head of steers that averaged 880 pounds the first day of December a few days after I started them on silage. On January first they weighed 980 pounds each, and January 18 1,020 pounds each.

This corn would have made a little over 30 bushels per acre, and it took 30 acres to fill the silo. This corn was allowed to get too ripe before it was siloed. The corn all shelled off the cob as it went through the cutter and the stock will not eat the cob. Other years they cleaned up cob, string and everything. Some water was added to this as it was put in but it is still too dry. I prefer to fill before the corn gets dry enough to require water, as it will pack better and is more palatable.

I have always fed cottonseed meal with the silage until this year, but owing to the high price of meal and the low price of alfalfa am trying to make the alfalfa take its place.

I have fed silage to horses for three winters with excellent results. They shed their hair early in the spring and keep in very good health. Have never had a horse sick from feeding silage. Hogs and chickens also like it, but, of course, they waste more than horses and cattle do.

I think if one had to hire everything done it would cost about \$1 a ton to fill the silo, but where several neighbors exchange work and hire just a few extra men, the cost is quite low. Three other men and myself own a cutter and we can hire an engine for \$9 a day when we furnish the water and coal. We can usually put up 100 tons a day. With an average crop I would consider one acre in the silo worth two acres left in the field.

Another advantage in having a silo is getting the ground cleared for wheat. Have had excellent results by double disking and seeding to wheat.—HARRY ESHELMAN, Harvey County.

The open, moderate days of winter can hardly be used more profitably than in hauling out the manure and spreading it on the wheat and alfalfa fields or those fields that will be planted to corn in the spring.

Spraying for San Jose scale is now timely.

#### Raise Calves at Half Cost

By using "Brooks Best" Calf Meal. 100 pounds, \$3.25; 500 pounds, \$15.00. Free directions. Brooks Wholesale Co., Ft. Scott, Kan.—[Adv.]



The milk in the pail the cow kicks over is lost forever

AND the butter-fat that goes into the can through the skim-milk spout of a cheap, inferior or worn-out cream separator is just as surely lost as the milk in the pail the cow kicked over.

If you are trying to get along without a cream separator; or with an inferior or worn-out machine, you are losing butter-fat right along and butter-fat is money.

Get Your  
**DE LAVAL**  
Now—Right Away  
every day you use it it will be paying for itself out of its own saving.

If you haven't the spare cash right now that need not hinder your immediate purchase.

We have an arrangement with De Laval agents which makes it possible for any reputable farmer to secure a De Laval on the partial payment plan—a small payment at time of purchase and the balance in several installments, so that a De Laval really pays for itself while you are using it and getting the benefit from it.

Let the De Laval start saving cream for you right now while butter and cream prices are highest. See the nearest De Laval agent at once, or if you do not know him, write us direct for any desired information.

**THE DE LAVAL SEPARATOR CO.**  
165 Broadway, New York 29 E. Madison St., Chicago  
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



Three Hundred Million Bushel Crop in 1915

Farmers pay for their land with one year's crop and prosperity was never so great.

Regarding Western Canada as a grain producer, a prominent business man says: "Canada's position today is sounder than ever. There is more wheat, more oats, more grain for feed, 20% more cattle than last year and more hogs. The war market in Europe needs our surplus. As for the wheat crop, it is marvelous and a monument of strength for business confidence to build upon, exceeding the most optimistic predictions."

Wheat averaged in 1915 over 25 bushels per acre  
Oats averaged in 1915 over 45 bushels per acre  
Barley averaged in 1915 over 40 bushels per acre

Prices are high, markets convenient, excellent land low in price either improved or otherwise, ranging from \$12 to \$30 per acre. Free homestead lands are plentiful and not far from railway lines and convenient to good schools and churches. The climate is healthful. There is no war tax on land, nor is there any conscription. For complete information as to best locations for settlement, reduced railroad rates and descriptive illustrated pamphlet, address

GEO. A. COOK, 2012 Main St., KANSAS CITY, MO.

Canadian Government Agent.

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

## BUILD A REAL SILO

Build a Permanent Humboldt, Hollow Tile Silo

THE LAST THING IN SILO CONSTRUCTION. WITH A HUMBOLDT, YOUR SILO WORRIES ARE OVER

Economical, Fireproof, Indestructible

Big saving in time and labor. No hoops to tighten. Will not twist or blow down. No painting necessary. Will not decay. Hollow tile will not shrink or swell. Extremes of heat and cold, moisture and dryness will not effect this wonderful construction. Empty or filled, the Humboldt Silo

**Stands Like a Rock**

A permanent improvement that you can be proud of. No tearing or wearing away. In the Humboldt Silo you have lasting strength and silage keeping qualities. Absolute insurance of a season's feed. Write for prices and booklet.

**Humboldt Brick Mfg. Co.**

**Humboldt, Kansas**

HOLLOW TILE FOR STABLES, DAIRY BARN, HOG HOUSES, HEN HOUSES AND RESIDENCES



**\$20.00 FREIGHT PREPAID**



**Most Profitable Farm Tool**  
Cooked feed fattens cattle, hogs, and poultry in less time and at a saving of 50 per cent over raw feed. It is more palatable, wholesome and easily digested, every particle going into meat making. Free of disease germs.

**THE COLUMBIAN COMBINATION FEED COOKER AND SCALDING VAT** is used for cooking grain and vegetables for stock and poultry, scalding hogs, rendering lard, making soap, heating water, out-buildings and a hundred other uses.

**VAT** is separate from furnace and is made of best grade No. 20 gauge galvanized metal, reinforced with heavy angle iron. Capacity 150 gallons—six feet long, 30 inches wide at bottom, 30 at top, 18 inches deep. Has extra perforated false bottom preventing feed sticking to bottom.

**FURNACE** is made of range steel, round bottom, reinforced with angle iron and has angle iron legs. Has heavy door with draft regulator. Burns anything: coals, chunks, fence posts. Equipped with grates for burning coal. Six feet smoke stack furnished.

**SMOKE YOUR OWN MEAT** in a COLUMBIAN METAL SMOKE HOUSE. Give it that natural flavor which is lost when liquid smoke is employed. Why should you pay packing houses their profit and freight two ways on your meat? You can save enough on these two items alone to pay for a Columbian. It is made of best grade No. 24 gauge galvanized metal. Sectional easy to erect! Has revolving meat rack, making it easy to fill or empty.

**SEND IN YOUR ORDER TODAY.** Simply give us the name of your bank and we will make shipment draft attached to bill of lading. Think of it—a Smoke House for \$25.00 or a Cooker and Scalding Vat for \$20.00 delivered at your station. Pay for them when you get them. Also sold by most dealers. Order today.

**COLUMBIAN STEEL TANK COMPANY** 1623 West 12th St., Kansas City, Mo.  
Manufacturers of "The Gold Medal Line of Tanks for the World"  
Write for Circular giving delivered prices on hog raising equipment.

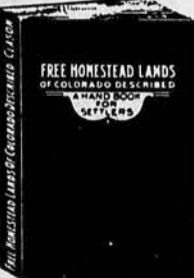


## FREE GOVERNMENT LAND

Endorsed by Professor Cottrell, Agricultural Expert of the Rock Island System.

Professor Cottrell says: "A conservative publication of unquestionable value to all seeking the free homestead lands. I am especially pleased with the careful appraisal of the cash value of these raw lands. A copy occupies a prominent place in the library which accompanies me on my travels over the Rock Island System."

Every citizen has a homestead right and is entitled to file on 160 or 320 acres. Thousands and thousands of acres of the most valuable lands in Kansas were secured in this way a few years ago. At this time eighteen million acres are still vacant in the state of Colorado. Why not use your privilege as an American citizen and secure a valuable tract of land free in Colorado?



### This Book Describes The Lands

A new book, "Free Homestead Lands of Colorado Described," has just been published, and KANSAS FARMER has made arrangements to distribute copies of this book in connection with yearly subscriptions to KANSAS FARMER, new or renewal.

The character of this land varies in different localities. Considerable of it is especially good, other portions only of fair quality, and some is poor, broken, and of little value. It is most important for a settler to locate in the right district and at the least possible expense. With this end in view, this book has been published, classifying the lands open for entry and giving accurate detailed description and location of the land in every township containing vacant land in Colorado, describing the surface, soil, timber, distance from railroad, etc.

This is the same book for which many have been glad to pay \$2. However, for a limited time we will send a copy of this book and a year's subscription to KANSAS FARMER to anyone sending only \$1, our regular subscription price, and 10 cents extra for mailing—this is in a strong paper binding instead of cloth. Send all orders to

**KANSAS FARMER, TOPEKA, KANSAS**

## Sell Him Now!

If you have a pure-bred bull, boar or other breeding animal that you cannot use in your own herd another season, why not sell him now? There are always buyers looking for pure-bred sires. Their trouble is to find a good animal. Your cue is to tell them where to find him, through the Classified Columns of

**Kansas Farmer**



## Rotation and Tillage Methods

THE report of eight years of experimental rotation and tillage work has just been issued by the Nebraska Experiment Station. These trials have been made at the North Platte sub-station. The following summary gives the essential facts:

"The results of eight years of careful experimentation throughout a series of unfavorable years indicate that the common methods of growing crops in this region—the results of thirty years' experimentation and observation by intelligent farmers—are founded on sound principles of economic production. Moisture conditions are so all-powerful in controlling yields that tillage methods, rotations, crop sequences, and soil fertility are all thrown into the background. The changes in weather conditions from season to season and from day to day of each season are so radical and so various that one system of tillage may succeed one year and another system succeed the next year. However, there are a few rather broad principles that apply to a wide range of conditions covering the medium and also many of the extreme conditions. All of these principles are subject to modifications, as there are no set and fast rules. It has been rather clearly established that moisture is the chief factor controlling crop production in this region. There seems to be an excess of fertility over available moisture at the present time. Therefore, any expense incurred for the purpose of maintaining or increasing the fertility is largely a loss so far as the yields of the succeeding crops indicate.

"Moisture is largely lost through vegetation rather than from the surface of the soil. The soil mulch assists in retaining moisture under certain conditions but does not always retain sufficient moisture to pay the cost of maintaining an ideal mulch. Summer tilling the land retains a part of the rainfall and gives some security against drought, but the cost of summer tilling has not been fully paid by increased yields of corn or spring grain. While the soil and crops respond to thorough methods of tillage, they do not respond sufficiently to extreme methods of tillage to pay for the added expense.

"A system of tillage that does not permit the soil to be robbed of moisture by vegetation which has no market value, and that keeps the surface of the soil from becoming hard and smooth, seems to accomplish the practical ends of tillage. While more labor than is required to accomplish these ends may increase the yields, yet the increase is likely not to be sufficient to return as much for a unit of labor expended in the extreme tillage as in the less intensive and more practical tillage.

"Summer tillage and green-manure crops have increased the yields but not the profits, because of the increased cost per acre. The results reported in this bulletin indicate that the less expensive methods give the greater profits. As the yield per acre is increased beyond a certain normal, the cost per bushel, on the average, will be increased.

"It is probable that the farmer who judiciously combined live stock farming with grain production secured a profit during the most unfavorable season."

### Stop Soil Washing.

Much can be done during the winter to lessen the washing of soil. A very useful circular on this subject has just been issued by the Missouri Experiment Station. Attention is called in this circular to the fact that brush and straw

piles that will be in the way during the farming season can be hauled away and used to stop soil washing. Every one has seen enormous gullies cut in a single season, but few realize that sheet washing is gradually taking away the best surface soil of our fields to such an extent that soil washing is the greatest single source of loss on many of our farms. The less busy winter time should be used in active work to stop this loss and in planning next season's field work so that the fields will be planted and cultivated across the slope or around the hill, in order that the rows will not run straight down in such a way as to furnish the steepest possible channel for the run-off from rains. Those who have such winter cover crops as rye to hold the soil in place are fortunate, but those who do not, should not flatter themselves that no washing is going on even in the winter time when there is less rainfall.

Small gullies that have just started in cornfield or wheat fields or even in pastures and meadows may often be stopped with a little straw. Even cattle paths in pastures often deepen so that they need such treatment. In other places it is necessary to plan to sow cane to stop washing, but if the gullies are more than a foot deep and two or three feet wide it is usually better to use brush, or concrete dams.

The brush dam gives better results if straw is mixed with the brush to help hold the dirt. Wherever the fall is great enough to make the water cut seriously, it is likely to be necessary to stake down the brush and straw so that they will not be washed away.

For deep narrow gullies concrete dams from six to twelve inches thick will give better results. Iron rods to give weight must be used in reinforcing the larger dams, but heavy wires will do very well in the smaller ones. The middle should always be left lower than the edges and the supply way should be provided with a concrete, stone, or brick apron at the bottom of the gully to prevent the falling water from cutting into the soil and undermining the dam.

### Destroy Insects in Winter Quarters.

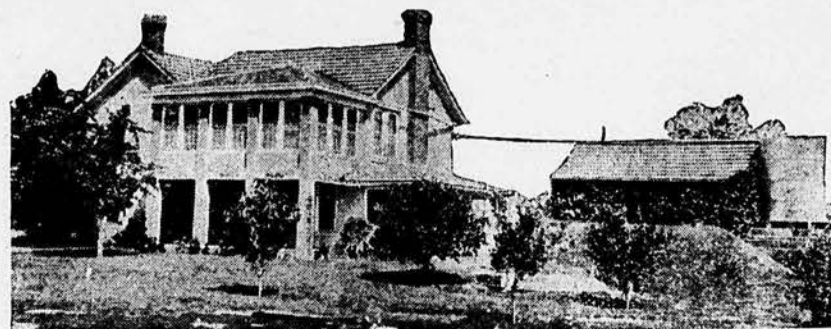
The knowledge of where the insect pests spend the winter is of utmost importance to the farmer in working out and applying methods of control. Most of the insects in the winter season are in a state in which they are readily attacked. Generally the best methods of control are such operations as are conducive to better agriculture regardless of whether the insects are actually present or not. This is particularly true of the means employed in exterminating the staple crop insects.

The staple crop insects—the field crop pests—spend the winter in all stages. One group of insects may live through the winter as adults, another may hibernate as larvae, and still another may pass the winter in the egg stage.

The chinch bug spends the winter as an adult insect in clump-forming grass, such as bluestem and bunch grass. Burning grass is a good practice.

The corn-ear worm winters as a pupa in its pupal cell from two to six inches below the surface of the ground. The "flaxseed" or Hessian fly pupa may be found in early-sown or volunteer wheat or in wheat stubble. They are under the sheaths of the wheat stalk.

The grasshopper remains in the egg stage throughout the winter. The eggs are in capsules at a depth of from one-half to one inch below the surface of



FARM HOUSE OF E. I. BURTON, NEAR COFFEYVILLE, KANSAS

# THE KANSAS HOME HAIL INSURANCE COMPANY

## PAID ITS 1915 LOSSES IN FULL

GOOD RELIABLE AGENTS THAT MEAN BUSINESS, WANTED

## THE KANSAS HOME HAIL INSURANCE COMPANY

CENTRAL NATIONAL BANK BUILDING, TOPEKA, KANSAS

WILL J. MILLER, President

G. C. SMITH, Superintendent of Agencies

ISAAC W. JONES, Secretary

OSCAR GOHLKE, State Agent

the ground along the roadside, in alfalfa fields, and in almost any uncultivated land.

Corn bill bugs pass the winter as adults in the taproots of corn plants.

In combating the Hessian fly, the most important thing, and the one the Kansas Experiment Station has always placed stress upon, is the destruction of all volunteer wheat. Four things are emphasized: Thorough preparation of the seed bed, destruction of all volunteer wheat, late sowing, and co-operation.

The above statements are on the authority of the entomologists of the Kansas Experiment Station.

### Drainage System Used for Water Supply.

There is hardly a farm in the eastern third of Kansas that does not have upon it some waste patches of land that could be made productive by proper drainage. Our attention was recently called to the successful efforts of a man in Atchison County in reclaiming such waste land. This farm is that of Karl Schuele. At our request Mr. Schuele has written the following description of his work in draining his farm:

"When I bought my farm of 160 acres, there were no improvements upon it and it was cut through from end to end with deep ditches. There was also considerable land that was seepy and worthless for farming purposes. This land was grown up to noxious weeds and brush.

"One day my neighbor, Ben Schneider, brought to my place, H. B. Walker, the State Drainage and Irrigation Engineer. He went over my place carefully and laid out the lines for a carload of drain tile and explained to me fully how to lay the tile. As a result of receiving this advice and instruction, I began this work, running the lines into the deep ditches.

"I was so much pleased with the results that I have since laid over four carloads of tile. I have now practically drained all the seepy land and am covering up the larger ditches. These places have all been cleared of the brush, roots, and weeds, and last year I raised good crops on this land in spite of the exceptionally heavy rainfall.

"Besides draining the land, I have now a running water system for my stock. The discharge from one of these lines is conducted along a hillside through 400 feet of sewer pipe carefully laid in cement so that no water can escape. This leads into a cement water trough 12 feet long, 3 feet wide, and 2 feet deep, located close to the barn. This line of running water not only furnishes water for all my stock at all times, but serves for cooling the milk, and enables me to keep the evening milk until the next morning. I sell the whole milk to the local creamery.

"There is another advantage to this water system and that is that it does not freeze in cold weather. Enough water runs through the trough and overflows to prevent freezing.

"I have another watering trough of the same size in the pasture, into which another drain line empties. This furnishes an abundance of fresh water for the stock during the pasture season.

"The rainwater from my 40x60 cement basement barn and silo is also carried away through a drain tile line. This takes the water away from the buildings and the yards are kept free from mud.

"My drainage and water systems are worth to me a great deal more than the cost of the tile and the work done, all of which was my own, and I would not think of doing without them. I am convinced that if the drainage lines are put in deep enough, at the right places, and the outlets are properly protected, they will prove in all cases a most profitable

investment. It is a source of great satisfaction to do away with those unsightly places that are grown up with weeds, brush, etc. Fields can be straightened, thus lessening the work required. These places are usually the richest on the farm and will produce big crops after being properly drained and cleared. If anyone has farm land in need of such drainage—and I believe fully half the Atchison County farms have such land—my advice is to get started at once. The advice of an experienced man should be secured. Unless you start out with the idea of doing it well, it is better not to start at all. Where drainage systems have failed it has been because the work was not properly done."

### Farmers' Institutes for February.

Below is given the schedule of the farm and home institutes to be held in Kansas during the forepart of February.

In addition to the speakers sent by the extension division of the agricultural college, there will be talks and discussions by the home folks.

Carl P. Thompson, specialist in animal husbandry, and Miss Alice Poulter, specialist in home economics, Alton, February 1; Osborne, February 2-3; Kirwin, February 4; Logan, February 5; Lenora, February 7; Norton, February 8; Norcat, February 9; Long Island, February 10; Almena, February 11-12.

A. R. Losh, road engineer, and Miss Marion Hepworth—Norway, February 1; Republic, February 2; Courtland, February 3; Phillipsburg, February 4-5; Agra, February 7; Athol, February 8; Smith Center, February 9-10; Oak Hill, February 11.

Dr. C. A. Pyle and Miss Louise Caldwell—Esbridge, February 1; Harveyville, February 2; Osage City, February 3; Waverly, February 5.

Carl G. Elling and Miss Louise Caldwell—Richmond, February 7; Lano, February 8; Olathe, February 9-10; Baldwin, February 11-12.

G. E. Thompson, specialist in crops, and Miss Mary Hoover—Macksville, January 31; Belpre, February 1; St. John, February 2-3; Kinsley, February 4-5; Cimarron, February 7-8; Jetmore, February 9; Burdett, February 10; Larned, February 11-12.

Ross L. Sherwood, specialist in poultry, and Miss Stella Mather—Mapleton, February 1-2; Hiattville, February 3; Erie, February 4-5; Buffalo, February 7; Fredonia, February 8-9; Benedict, February 10; Cherokee, February 11.

To many "crop rotations" seem too difficult and too scientific for them to tackle, when in reality they may be practicing it on their farms. In reality, a crop rotation means simply this: A legume; a feeding crop; cash crop; cultivated crop; and an uncultivated crop. Many crops combine several of the rotation principles—clover and alfalfa being both legumes and feeding crops, and wheat an uncultivated and a cash crop.

### A Lamp Without a Wick.

The Sunshine Safety Lamp Co., 822 Factory Bldg., Kansas City, Mo., has a new portable gasoline lamp which gives the most powerful home light in the world—a blessing to every home not equipped with gas or electricity. Three hundred candle power at one cent per night. This remarkable lamp has no wick and no chimney, is absolutely safe and gives such universal satisfaction they are sending it on free trial. They want one person in each locality to whom they can refer new customers. Take advantage of their free trial offer. Agents wanted. Write them today.—[Adv.]

## THE SANDUSKY TRACTOR

"THE LITTLE FELLOW WITH THE BIG PULL"

15 Draw Bar H. P.—35 Belt H. P.

The Sandusky Tractor is successfully and economically handling the general run of power requirements on hundreds of farms.

Its distinctive design and high grade construction throughout places the machine in a class by itself for range of economic usefulness.

Adapted alike to all operations in preparing a real seed bed, drilling, harvesting; is ideal for thrashing and other belt work, and has three speeds on the road.

Sold subject to three day trial, demonstrating on your own work its ability to fulfill

### OUR GUARANTEE

We guarantee The Sandusky Tractor to handle four 14-inch mold board plows 8 inches deep where a big team can pull a 12-inch plow 6 inches deep; to run belt machinery up to 32-inch separator; to have one-third reserve over drawbar rating, and for one year against defective workmanship and material.

Equipped with our own four cylinder, four cycle, 5 x 6 1/4 heavy duty, slow speed, vertical motor; 2 1/4 inch crankshaft; 31 inches of motor bearing surface; all four bolt bearings; positive self-contained combination force feed and splash oiling systems. Motor set crosswise to frame eliminating objectionable bevel gear drive; removable underpan permitting taking up or replacing bearings, connecting rod, rings or entire piston without disturbing any other part of tractor. Three speed selective transmission, 2 to 5 1/4 miles per hour with direct drive on low; three point spring suspension; all steel construction; light weight; small overall dimensions and short turning brakes; easily handled; surplus cooling capacity.

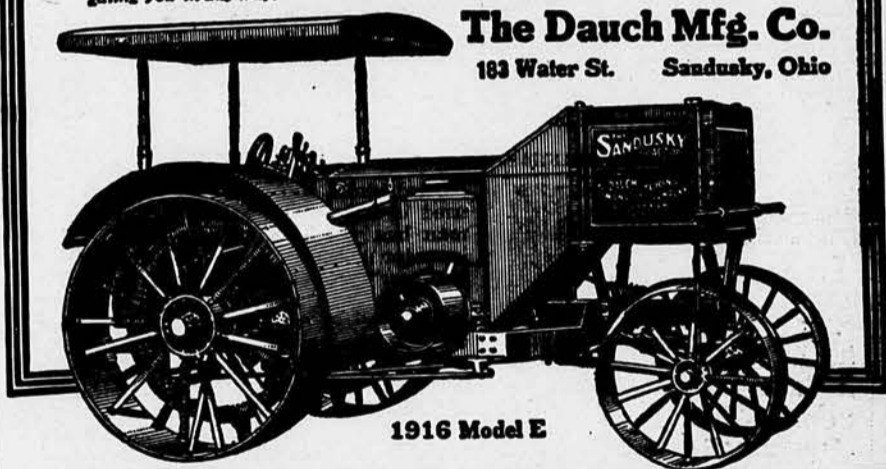
The Sandusky Tractor, its motor, and transmission were each awarded the Gold Medal at the Panama-California Exposition. Also highest award Silver Medal at Society for Improvement of Agriculture Exposition, Lancashire, England.

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Write for a copy of the new 40-page edition covering the latest refined 1916 Model E, its uses, and containing other valuable information. Tell us fully about your power problems and we'll gladly help you solve them without obligating you in any way.

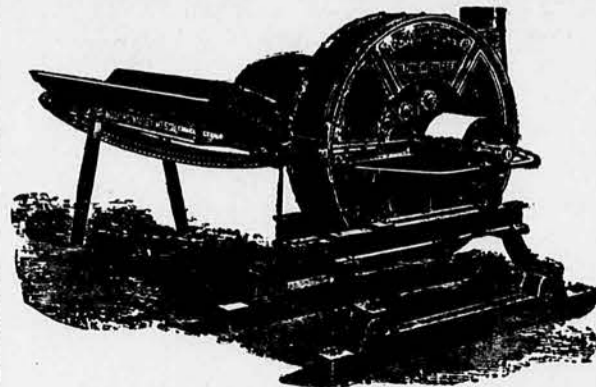
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183 Water St. Sandusky, Ohio



1916 Model E

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**AWL**

For making Buckle Holes

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The best radish grown. We will send one package, also one package of our best Sweet Pea seed, free, if you will send the names of ten parties who buy garden seeds.  
**ELLIOTT'S NURSERY & SEED FARM**  
Trenary, Mich.

# BRAKE AND CLUTCH

Items of Every Day Interest About  
The Automobile and for the Motorist

**O**VERHAULING of a gasoline engine should be taken in hand in good time so as to be unhurried and very thorough, for efficient engine service depends upon the close examination the power plant gets during the overhauling and the attention given to such readjustment or renewals as may be needed.

Don't overlook the piston rings of your engine when this takes place. They are so apt to be neglected, being often considered unimportant when, as a matter of fact, a gasoline motor is only as efficient as its piston rings. A defect in them is immediate in its effects upon the motor's performance.

If you want to feel confident and secure in your anticipation of satisfactory service when it is needed, be sure you have first satisfied yourself as to the condition of your piston rings. They should not be worn out so as not to fit properly, and must retain the necessary spring to give them the requisite bearing against the cylinder walls so that their openings or points of expansion are not in alignment.

Piston rings must be true, perfectly fitting, have equal and sustained tension on the cylinder walls or efficient motor service is impossible. With fuel going to waste, power deficient, carbonization and cylinder wear increasing, you will wish many times that you had given the piston rings proper attention when the motor was overhauled, instead of having to take the engine down in mid-season to do so.

#### Soft Iron Wire for Belt Lace.

Ordinary stove pipe wire, or any soft iron wire about eighteen or twenty-gauge, makes good belt lacing. Punch small holes about one-half an inch apart and one-half an inch from the ends of the belt, lace with a double row of wire and twist the ends together. Place the joint on an anvil or a pulley and pound the lace into the belt.

You can lace large belts in this way and they will be practically noiseless and last a long time.—R. A. BRADLEY, Colorado Agricultural College.

As an index of the future possibilities of the gas engine, Hiram Maxim, the inventor, proposes to make the coal, still in the ground, directly into a gas, and use it for power through great gas engines. His plan is to set fire to the coal by electricity. Two shafts must be sunk to the coal vein. After the coal is ignited, air is to be pumped down one shaft, smoke and gas drawn up the other. This smoke and gas will be of such a nature that they will burn in a suitable engine and give power. Producer gas is now made by partially burning coal in a retort where only air enough is allowed to enter to keep a part of the coal burning. Heat sufficient to make gas of the coal that is not burning is furnished by the coal that is afire. The smoke and gas from such a retort will give, from a pound of coal, slightly more power in a gas engine, than if the pound of coal had been burned under the best steam boiler, and used in the most efficient steam engine man has yet been able to build. This inventor proposes to use Nature's "gas producer" and save the expense of mining, transporting and firing coal to either boilers or producers. His plan will also leave the ash and cinder out of the way. The saving along these lines would cheapen power very much, for both steam and gas engines. The gas engine would still have the advantage, in that the heat that would be wasted in the ground would be just that much that could not be used under the boiler as at present.

A further thought on the preceding item is worth serious consideration. We hear much of a shortage of gasoline in the near future, owing to played out or exhausted oil fields. The natural gas that is usually present in the oil fields has been put through a process that condenses a part into a liquid fuel oil. This oil is a very superior gasoline for automobile and other high-speed engines. Similar experiments have shown that the same gas is present in producer gas. It is but reasonable to suppose that if our present source of gasoline does not meet future demands, a substitute can be provided from coal gas to meet all requirements.

With cold weather at hand, motorists who are accustomed to all the year around service face new conditions of

operation and maintenance. None of the problems that low temperature brings has more bearing on good service than lubrication, for a drop in the mercury means an atmospheric condition that has a tendency to congeal the lubrication oil unless it has been manufactured in a way to prevent this difficulty. Motorists observe this most commonly when they find the motor hard to start on cold days. Oil is now made that automatically takes care of the problem of low temperature and consequent tendency to congeal the oil.

#### Tractor Operator Must Study Machine.

"Trouble with the tractor often occurs when the operator can assign no cause. This is most likely to be the case when two or three persons handle the machine and no one is definitely the 'engineer' and responsible for the machine. It may also happen to an inexperienced engineer," states E. R. Gross, of the Colorado Agricultural College.

"The timing of the spark and adjustment of valves are just sufficiently delicate to cause much trouble if they are allowed to shift slightly on account of a loose bolt or are slightly changed by one operator without the knowledge of the others.

"It is necessary to have one person who is the engineer and have him as well informed as possible on his machine. Every day he should learn something more about it and its operation, until he can truly say at all times just how every part is and thus locate trouble as soon as it occurs. Real trouble, time-wasting trouble, will come to such an engineer only through unavoidable accidents, and these will be rare.

"The expert sent out from the factory cannot operate the tractor as well as the engineer who operates it daily, yet he may be able to find trouble the operator could not locate. It is the expert's business to locate trouble; the operator's, to avoid it. Too many are satisfied if a machine runs. That is not enough. Does it run right? Are all bearings perfectly lubricated and properly adjusted? Is there pounding, even to the very slightest degree? Is the valve and spark adjustment such as to give the highest power? No one can answer these questions so well as the operator, if only the operator knows. You can't get an operator who knows these things for your tractor, but you should get one who will know, when he has been on the job a short time."

#### Engine Short Course Popular.

Traction engine experts from nine factories will demonstrate their respective engines for the benefit of short course students in the Kansas Agricultural College this winter. A large class is enrolled in this course. This is an indication of the interest being taken in power farming. Each representative will have an entire week allotted to him in which he will show the features of his machine.

For class purposes eleven tractors are now being used by the department. They are furnished by the manufacturers free of charge. The work is under the supervision of W. H. Sanders, instructor in farm motors.

If your exhaust smokes, it is a sure indication that too much oil is being fed. This will always cause a deposit of burnt oil in the cylinders; not carbonization, but equally troublesome.

Never change a single ball in a bearing. Renew them all.

Clean the mica in your hood by dampening them carefully with vinegar and then rinsing off with clean, cold water.

Gasoline should only be put in a car through chamois, which will remove moisture or particles of dirt, either of which will clog the carburetor.

If a funnel becomes absolutely necessary on the road, disconnect your horn and take out the reed, after which it will serve the purpose very well.

Horses have decreased 29,000 in numbers in the United States during the past year. For the past five years previous to 1915, horses steadily increased in number. The war demand is probably responsible for the decrease. The need for farm motive power cannot have decreased during the past year, and tractors are likely to be called into use to supply deficiencies.

## Can your horse use his full strength?

Horses with sore shoulders or galls can not do their best work unless they have a comfortable, non-irritating collar. Besides being comfortable, the Lankford Horse Collar will cure galls and sore shoulders.

**The Lankford**  
HUMANE HORSE COLLAR

\$1.25



is made with the idea of enabling a horse that has sore shoulders to put his full strength into his work without hurting him. It does this because it can be adjusted to fit any shape neck. It is stuffed with pure medicated cotton, which absorbs sweat and impurities thrown off by the horse and effects a speedy cure. Lasts three or more seasons. Acts as collar and pad combined.

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#### along the M. K. & T. Ry.

"Nowhere else can be found more nutritious grasses and abundant water! Stock needs little or no winter shelter! Farmers work outdoors entire year! Soil prepared for spring planting early as January. Crop harvests extend well into winter months! Entire section well watered; rainfall averaging 40 to 45 inches." In that brief way the U. S. Gov't sums up the advantage to you of farming in Eastern Oklahoma. But as an example, W. G. Edwards tells what these advantages mean in money—

"When I came from Missouri to Pittsburg County, Eastern Oklahoma, I had only about \$700.00. I leased raw land and engaged in livestock farming. I have raised and sold corn, hogs, hay, and cattle every year. I now own 310 acres of land all under fence, with a modern seven room house, fine well of water and wind-mill, with water piped to the house and barn." Find out what you could do in Eastern Oklahoma.

#### Send for free booklets

published by the Eastern Oklahoma Farm Bureau, composed of bankers and business men who have no land to sell but are interested solely in inducing practical, substantial farmers to settle and develop the fine farm lands there—lands at \$10 to \$60 per acre, which will raise as high as 30 bu. of wheat, 75 bu. of corn, 80 bu. of oats and 6 tons of alfalfa a season. Write for these booklets now!

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# Making Corn Belt Farms Pay

Carl Vrooman Suggests Plans For Cashing In on Scientific Advice

**"T**O suggest to the corn-belt farmer of the Middle West—especially the farmer whose soil has been run down by continuous grain farming—some ways of co-ordinating and 'cashing in' the scientific advice offered him," is the purpose of Farmers' Bulletin 704, as stated by its author, Carl Vrooman, Assistant Secretary of Agriculture.

The viewpoint of this bulletin, "Grain Farming in the Corn Belt with Live Stock as a Side Line," is that of the farmer who is farming for a living, and emphasis throughout is on simple ways of securing greater cash returns without depleting the soil. The whole farm is considered as a unit. All grain crops suitable for the section are dealt with in their relation to one another, in rotation with various legumes, green manures, cover crops for soil maintenance and feeding, and in connection with live stock as a profitable side line and especially as a source of manure and fertility. Special attention is given in the closing pages to effective employment of time and capital, profitable side lines, the need for co-operation, and the importance of efficient marketing of crops. There are also chapters on the human crops of the farm, especially the boys, girls and women folk.

This new type of bulletin, for which the author acknowledges his indebtedness to many authorities but assumes full responsibility, refers in its forty-four pages to many Federal and State college bulletins dealing in detail with the growing of a single crop. The many original recommendations in the bulletin are designed "to supplement the other publications," but its chief purpose is "to serve as an introduction to them and to stimulate a wider and more profitable study and application of them by the average corn-belt farmer."

#### MAINTAINING FERTILITY.

The bulletin throughout strongly condemns "soil robbing" and "crop burglary" and emphasizes the need of keeping up fertility and productiveness by means of stable manures, green manures, legumes, rotations, lime and phosphorus. "Put humus into the soil; manure after every crop"—is the major text of the bulletin.

The following extracts, necessarily omitting detailed recommendations, such as special treatments for each grain crop, the fourteen possible rotations discussed in diagram and text, and the use of waste in feeding live stock—give an outline of the author's plan for combining business farming and scientific agriculture to the monetary and social profit of the farm.

#### THE FARM—CIVILIZATION'S UNIT.

"The farm is vastly more than a business enterprise; it is a home, a social and civic center—the most important unit of civilization. The success of a farm home is based on the success of the farm business. What farmers need most to know is how to make the science of agriculture boost the business of farming."

The farmer who robs his soil is sawing off the limb upon which he is sitting. Your deed calls for the subsoil as well as the surface soil, and the subsoil is a mine of fertility and a well of water if properly utilized.

Lime is the one thing most needed by the average run-down soil. Phosphorus, next to lime, is the mineral plant food probably most needed by the average unproductive soil. Manure as regularly as you harvest. Stable manure is the best of fertilizer. Where stable manure is not available, green manure must be used.

"Proper tillage becomes more important as the farm grows older until on 'worn out' farms it is a factor of chief importance. Tillage gives the crop more surface on which to feed without increasing your taxes, makes existing plant food more available, gives air to the roots, regulates water supply and kills weeds. Where the land lacks natural drainage, everything else depends on how thoroughly the soil is ditched or tiled."

The farmer who sells all his crops off the place and then also burns all his cornstalks and straw, reminds one of the burglar who takes all the valuables he can carry off and sets fire to what is left.

#### HUMUS AND LEGUMES NEEDED.

Humus is the stuff with which Nature fertilizes uncultivated soil. Plow under all stable manure, straw, cornstalks, stubble, leaves, weeds and green-manure crops.

Where Nature grows sweet clover, you can grow sweet clover. Remember there

is a legume crop for almost every soil. The productivity of a farm is not being kept up on a permanent basis unless annually at least one-fourth of that farm is made to grow legumes, all of which except the seed is plowed under as stable manure or green manure. Do not, unless under exceptional circumstances, grow corn in the same field more than two years in succession. Feed as much of your grain as possible to live stock on the farm.

#### LIVE-STOCK ESSENTIAL.

When you break even on your beeves you are ahead of the game provided you save the manure—especially if you have kept hogs following the cattle. "Saving the manure" doesn't mean saving merely one-third or one-fourth. It means saving 70 per cent or more, liquid as well as solid. The problem of keeping live stock with profit is largely a matter of making use as silage, roughage, or bedding, of stuff that is wasted on the average farm. Weeds and weed seeds, usually counted worse than nothing, may be put on the right side of the ledger by means of a few sheep.

Catch but one bad ear in testing seed corn and you save a good day's wages. Find the average number of bad ones and you save a week's wages in a winter's afternoon. Buying seed is a business proposition—not an exercise of faith.

#### SIDE LINES AND WOMEN FOLK.

As long as the average farmer "keeps his garden on the grocery shelf," he sells everything wholesale and buys everything retail. Side lines such as canning, preserving, making apple butter, are profitable where the farmer is wise enough to see that the women of his household get all necessary help with their work.

#### APPLY BUSINESS METHODS.

Keep accounts—find just where your money comes from and just where it goes. Some men's wealth is like a good deal of the fertility in their soil—it is not "available." If the boys and girls are to be kept on the farm, the farm must be made not only a financial and economic success, but also a family and civic success. Any reasonable expenditure for making the home place more attractive is as real and profitable an investment as though the money had been spent for limestone and phosphate.

Preparedness is as important for the farmer as it is for the soldier. The farmer who wastes his leisure time and who fails to utilize rainy days and slack seasons to get his affairs in shape, can never hope to catch up during the busy seasons.

It is not enough to grow a good crop, or even to grow a good crop at low cost. To make a big crop a business success it must be disposed of as efficiently as it is grown—must be so graded and packed as to meet market standards and so marketed as to bring the farmer the highest current price.

The farmer who is too suspicious to get together with his neighbors in order to do co-operatively what no one can do alone, is sure to pay dearly for his incapacity for team work.

#### New Auto Road Map.

KANSAS FARMER has just secured a new edition of maps, including the latest corrected map of Kansas showing all railroads and post offices, population of towns, and giving all the information usually found in an up-to-date map. The newly laid out cross state auto roads are plainly indicated in heavy green lines on this Kansas map. Anyone wishing to drive across the state can easily find the best road by following the lines. The size of each page is 28 x 36 inches.

The wall map or chart consists of two sheets, making four pages of maps and other valuable information. Page four contains a large map of the European countries at war. The price of this map wherever sold is \$1. However, by purchasing a large number we are enabled to offer one of these maps, with a year's subscription to KANSAS FARMER, for only \$1.05 postpaid. This offer is for new or renewal subscriptions. We will send the map postpaid and enter or renew a subscription to KANSAS FARMER for three years, for \$2. Address all orders to KANSAS FARMER, Topeka.

"I want to see the government own everything," said the discontented man. "Maybe it might be a good idea," replied Mr. Dustin Stax. "I have a few things that I would like to sell it."—Washington Star.

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Perfect self-adjusting steel rim anchoring system.

Always round—cannot become egg-shaped.

The best of material is used in this silo.

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The first cost is the last cost.

Buy a Steel-Rim for the silo you now have, as it will hold any silo of any type; and as evidence of this, there is not a Hinge-Door Steel-Rim Silo down anywhere in the United States.

These are some of the features that make the Hinge-Door Steel-Rim Silo the best structure to build, and make it the first choice of all stock feeders and dairymen. Build this time-tested Hinge-Door Steel-Rim Silo, and have a solid, permanent improvement on your farm.

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Low-down steel frame, self-feeding third roller, malleable knife heads, big capacity, low power.

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A pair of mated EVERBEARING STRAWBERRY PLANTS FREE if you will report as to your success with them. Will bear loads of big, red, berries from June to November. We have counted 400 berries, blossoms and buds on a single plant. A postal will bring the plants, also one of the new CEREAL FERTILIZER to plant a row square of ground. Also a pair of perennial ORIENTAL POPPY seed. Send 10 cts for mailing expense or not, as you please. Write today and get acquainted with THE GARDEN NURSERY COMPANY Box 756, Osgo, Iowa.

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Apple trees \$3.00 per 100; Peach \$3.00 per 100; Cherries \$14.00 per 100; Concord Grapes \$2.00 per 100; Dunlap Strawberries \$2.25 per 1000; Everbearing Strawberries \$2.50 per 100. Everything in Fruit trees, Plants and Ornamentals. Send for our Free Catalog  
**HOLINGER BROTHERS NURSERY, BOX 100, ROSEDALE, KANSAS.**

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From the Farmer Seed Corn Grower That made 100 bushels per acre. Best that grows. Catalog free. It tells all.  
**JOHN D. ZILLER, HIAWATHA, KANSAS**

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.



## THE POULTRY MITE

EVERYONE knows the gray poultry mite which takes on a distinct reddish cast after the meal of blood. It is commonest in dark, damp, dirty poultry houses where it thrives upon filth, and the logical remedies recommended by T. J. Talbert, of the Missouri College of Agriculture, are sunshine, ventilation, and cleanliness. The hen-house should be so constructed that it can easily be kept clean and that there will be no cracks or crevices in the roosts or elsewhere to furnish hiding places for the mite during the day time when they are not on the fowls. They feed at night, crawling from fowl to fowl, so that one infested bird may introduce them into the entire flock.

Sunshine is one of the best disinfectants as well as a great foe to the mite, and it should be given access to just as much of the hen-house as possible. Regular spraying with kerosene emulsion, strong tobacco solutions, or commercial stock dips will help greatly. Commercial lime sulphur and miscible oils put on the market in such form that they will mix readily with water for use in spraying orchards are also helpful in combating the mite.

One application is not enough and the spray should be repeated in about a week in order to kill the young which may have developed from the eggs laid about the roosts or in the filth before the first spraying. It should be applied with sufficient force to penetrate all cracks and crevices.

Kerosene emulsion properly prepared at home will give as good results as anything which can be purchased. Mr. Talbert gives the following directions for making it: "Dissolve half a pound of laundry soap, or a pound of lye soap, in a gallon of soft water; take the solution off the fire and add two gallons of kerosene before cooling. Mix them thoroughly by churning ten or fifteen times and use one part of the emulsion to eight or nine parts of water when ready to apply."

One part boiled lime sulphur made exactly as for orchard spraying may be mixed with eight parts of water, and the commercial stock dips may be used in accordance with printed directions usually furnished with them. Strong tea made by boiling tobacco stems in water gives good results, and whitewashing should not be neglected.

Spray pumps of many different sizes and types will give good results. Bucket pumps, knapsack sprayers, and automatic sprayers will be useful in the garden and orchard as well as in the hen-house, although a longer hose or extension rod will be needed in the orchard. A barrel pump or power sprayer may be used with good results if it is already on hand, but is more expensive than the average farm needs for hen-house work.

If you are going to use incubators this season for the first time, send off for them early, so that you can read the directions thoroughly and know what you are doing.

Many send for an incubator after they have saved enough eggs to fill one, then when they receive the incubator they fill it with eggs and start it right away, without any previous experience in running an incubator. The results are often disastrous, and could have been avoided by experimenting a little with the machine before putting in the eggs.

The mating season is now upon us, and it behooves the poultryman to be very careful in the mating of his pens, otherwise the whole season's work will prove a disappointment. He should have a definite object in view, either to strengthen the vitality of his flock, to increase their laying qualities, or to improve the color of the plumage. Whatever his main object is, he should use all of his endeavors to attain it, and never be satisfied till he has succeeded.

At this time of year when the hens are shut up in a tight house, considerable moisture will gather, and be absorbed in the litter. When this becomes damp and mouldy, it proves a menace to the health of the flock, and is a frequent cause of disease. The litter should be changed as soon as it is broken up, and before it becomes damp. Fowls can stand a lot of cold without evil conse-

quences, but dampness they cannot stand but become ill and eventually die.

When hens lay soft-shelled eggs it does not always indicate that they need more lime, or oyster shells, but it often occurs because they are fed too much corn and are too fat. A more liberal feeding of green stuff such as cabbage, turnips or sprouted oats, and less corn, will help to remedy this matter.

The recent cold snaps have frozen many a rooster's comb and disfigured it permanently. Nothing much can be done to a frozen comb after the frost is out, except to grease it with vaseline or glycerine. But if the frosted comb is discovered before it has had a chance to thaw out, the comb can be saved from falling off. Catch the bird and rub the comb with kerosene oil till all the frost is out, then anoint with glycerine and no bad effects will result. Some advise rubbing the comb with snow or cold water to take the frost out. This has the same effect as the kerosene, though we do not believe it is as efficacious as the oil, besides the oil has a curative quality as well as taking out the frost. If the combs of male birds are rubbed with grease on the approach of a very cold snap the chances will be greatly in favor of them not being frozen.

A poultryman in Rhode Island has brought out another new breed, which he calls White Progressives, but they are supposed to be nothing more than single comb White Wyandottes. He is a breeder of White Wyandottes, which as everybody knows has a rose comb; but it has occasionally sprouted a single comb, coming as it is supposed from some breed that was originally used in its make up, probably the White Cochins. The originator claims that the Progressives are better layers than the White Wyandottes, and have greater meat capacity. In our opinion it would be a hard matter to beat the White Wyandottes either for meat or eggs, and if any man prefers a single comb to a rose comb, there are the White Plymouth Rocks to fill the bill. I suppose one will have to stand these new-breed makers, and if the merits of their breed will stand the test of time, all well and good, if not, good-bye Progressives.

While it is not always advisable to feed hens by rule, it is a good plan to have a system and stick to it. It need not be an ironclad rule, for common sense should come in, no matter how strict any rule might be. A rule that conflicts with common sense is not a good rule, and the oftener it is broken the better. But a regularity in feeding chickens is essential to good management. The feeding has much to do with the health of the birds, and governs in a large measure the egg production. A hen that is properly fed will do her best, and give you the greatest returns that she can. If she is of a poor strain she will not do very well at the best, but well-bred hens will make a good showing. You can't get many eggs from a hen that has been inbred for several generations, neither can you get satisfactory returns from improperly-fed hens, even though of good laying strain. Have a plan for your feeding, and have good hens to feed. The result of such a combination will be both pleasing and profitable to you.

One of the lecturers on poultry at the state show said it was not necessary to feed meat or meat scraps in order to get eggs. Maybe he is right in the abstract, and that we can get eggs from hens even in the winter time without feeding any animal food. But it is undoubtedly the fact that we can get more eggs by feeding meat scraps, for they contain a great percentage of protein and it requires a great amount of this element to manufacture eggs. In summer, a hen on free range, can get most of the animal food she needs in the way of insects, grasshoppers and bugs, and it is not necessary to feed her any other animal food, but in the winter time she is deprived of all meat except that which is provided for her by her owner. Many experiments have been made in experimental stations on this very subject; by feeding hens without meat, and with meat, and the hens that have been fed a liberal ration of meat have always outlived

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E. J. Reefer, the poultry expert, 9631 Farmer Bldg., Kansas City, Mo., is giving away free a valuable book entitled, "White Diarrhoea and How to Cure it." This book contains scientific facts on white diarrhoea and tells how to prevent a simple home remedy cures this terrible disease over night and actually raises 98 per cent of every batch. All poultry raisers should certainly write Mr. Reefer for one of these valuable FREE books.

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those that were fed on grain alone. Instinct teaches the hen what is good for her, and if you want to see her preference in this matter, hold a handful of corn in one hand, and a handful of raw meat in the other, and see which she will gobble first.

As it comes to the breeding season begin to cull your flock very closely. If you have birds that do not conform to the Standard, get them in a pen by themselves, but do not breed from them. If they are laying, keep them till they quit, then kill them for the market or the table. The sooner you get rid of culls the better. There is a temptation many times to keep over pullets that will answer for layers, when they do not come up to the Standard. Such birds spoil the looks of an otherwise fine flock. A disqualified bird should never be used in the breeding pen, at least not in the pen where eggs for hatching are sold to customers. Sometimes one has a very fine bird except in a minor disqualification, such as a wry tail, a side sprig, or a little down between the toes. If the breeder wishes to experiment with such a bird and raise some of the progeny, he should keep them all for his own use, and find how many of the progeny, if any, have inherited the defect. But he should never sell eggs from a mating of disqualified birds. In fact the better way would be to kill such for market purposes at once, and not bother with any experimenting. One gets enough culls by breeding the best kind of Standard birds, let alone breeding disqualified ones.

Never go into poultry work on too big a scale until you have tried it out first with a few pens. And especially do not

commence with a dozen or more breeds. In fact one breed is all one can properly attend to, and to start with a great many will only spell failure from the very start. Poultry keeping demands brains as well as brawn. Now and then a woman will make a success of the business all alone. But the ideal combination is husband and wife. The care of little chicks seems to be the one thing that women can do much better than men. They know just how to make the little ones comfortable and happy. The cleaning of houses, routine of breeding, watering and filling hoppers come in as the man's work. It makes it very nice where the husband and wife are equally interested in the chickens and each do their share of the work. Most of the men are away from the home during the working hours, and then it devolves upon the wife to look after the welfare of the chicks. But when the man is home he ought to attend to the rough and heavy work. Very often at poultry shows we meet women fanciers exhibiting their fowls, and when we ask them if their husbands care about chickens, we often get the reply that they do not, and the wife has to run the business almost in opposition to her husband's wishes. We are very certain though, that when it comes to taking part of the money that the wife earns by her chickens, that the husband won't object. On the other hand we occasionally meet a man that raises chickens, whose wife takes no interest in them whatever, though these cases are rarer than the others. As we said before, the ideal combination for a chicken ranch is husband and wife both devoted to the business and both working together for the best interests of the industry.

## Smoking Meat on the Farm

**S**UBSCRIBER, A. E. D., Johnson County, asks for a plan for a concrete smoke house.

We print on this page a plan supplied by the North Dakota agricultural college, and described as follows:

The firebox, for convenience, is placed on the outside of the building. Here the fire and smoke can be easily replenished or controlled; also, with this arrangement, there is little danger of the meat overheating. This house is suitable for storing meats. It is cool and sanitary. With a good lock on the door the meat should be comparatively safe from thieves.

With cement at 50 cents and lumber at \$30 per thousand, this house will cost \$65, not including labor. Following is the bill of material:

Forty-eight sacks of cement, 6 yards sand, 18 loads stone, 1 door, 2 2x8x12 for door frame, 3 2x4x14 for the meat hooks, Lumber for forms: 10 2x4x18, 16 2x4x8, 600 feet sheathing. (Set studs for the forms two feet on centers, wiring at middle, making a 4-foot span.)

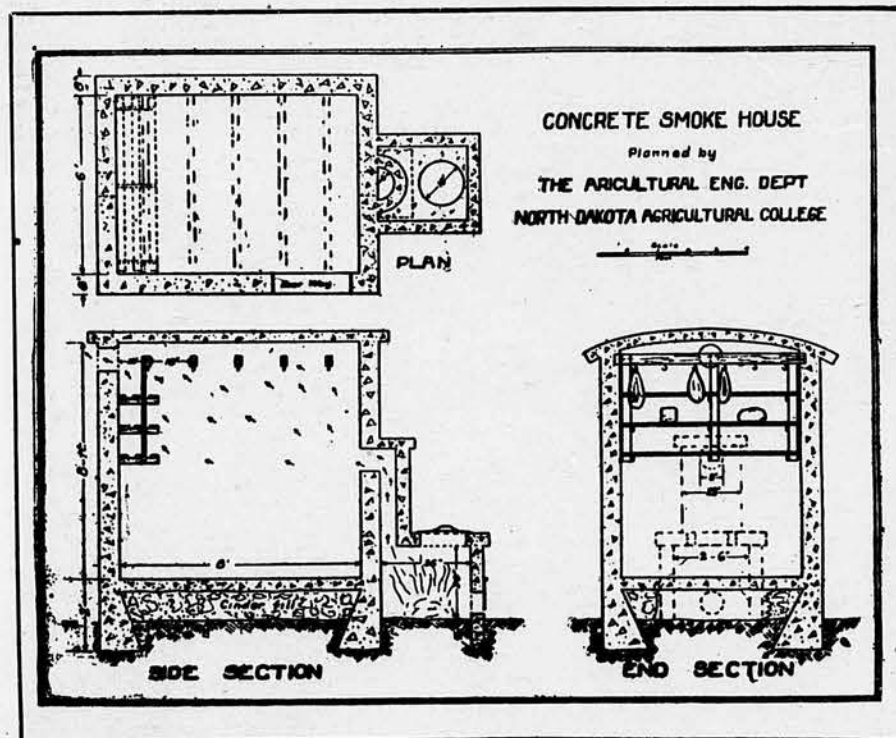
Our subscriber need not give up the idea of smoking meat even though he does not feel disposed to construct so elaborate a smoke house as is shown in the figure. Those farmers who were curing and smoking their own meat as late as ten years ago were able to do a good job with cheap and improvised smoke houses.

We will never forget the days of our

boyhood when the meat was smoked in a little frame building which was temporarily constructed for the purpose. It was probably four or five feet square, made out of 1x12 boards set on end and the cracks battened. The floor was earth. A trench a foot or so deep and a couple of feet wide, extending outside of the smoke house about two feet, but opening into the bottom of the smoke house, was dug and in which the fire was built. Over the fire was laid a few old pieces of stove pipe, straightened out. Cracks left at the top of the smoke house between two or three boards supplied the draft necessary. In a couple of weeks, if we remember correctly, the meat was smoked, removed to the cellar and the temporary structure taken down and the boards used for something else.

The point we desire to make in this connection, is that no farmer need be deterred from curing and smoking his own meat because he is not able to build a modern and permanent smoke house. The smoke house here designed we have, no doubt, is good, and it will last as long as any one family will need a smoke house. It will furnish a good summer storage for meat, too.

In our judgment, too many farmers are buying smoked meat from the packers, and it matters little whether the packers' profit is large or small. It requires an actual cash outlay to buy meat. This meat can be killed on the farm, cured and smoked without money outlay, and money can be saved thereby.



H. H. Johnson



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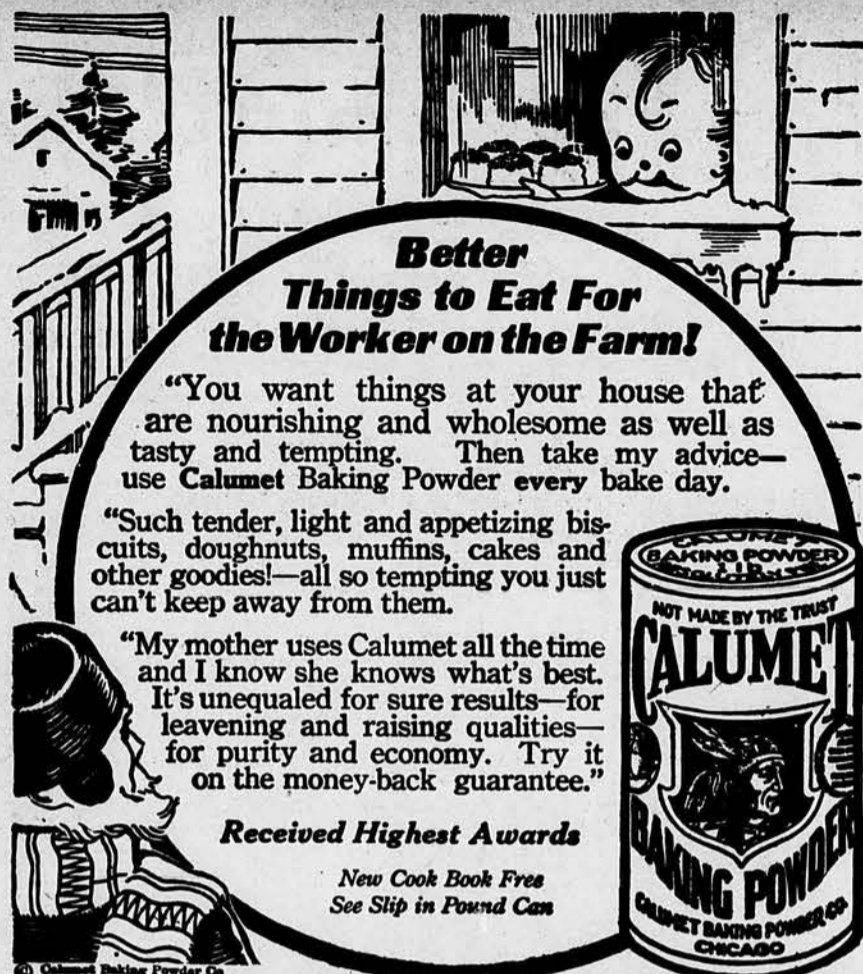
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Helpful Hints Here for the Women Folks of the Farm

#### WORK.

Let me but do my work from day to day, In field or forest, at the desk or loom, In roaring market-place or tranquil room; Let me but find it in my heart to say, When vagrant wishes beckon me astray, "This is my work—my blessing, not my doom; "Of all who live, I am the one by whom "This work can best be done in the right way." Then shall I see it not too great, nor small, To suit my spirit and to prove my powers; Then shall I cheerfully greet the laboring hours, And cheerful turn when the long shadows fall. At eventide, to play and love and rest, Because I know for me my work is best. —Henry Van Dyke.

To sugar doughnuts quickly and easily, put some sugar in a paper bag with the doughnuts and shake well for a few minutes.

To clean tan shoes rub a piece of lemon over them. This will remove all dark stains. Let the shoes dry and then polish in the usual way.

#### Child Deserves Good Start.

So much is dependent upon the child's proper start in school, that he should make that start under the most favor-

able conditions possible. If he has enlarged tonsils, bad teeth, or poor eyesight, he cannot do his best and what he does will overtax his strength which will necessarily be reduced as a result of any of these ailments.

If the child takes little interest in his studies and they seem to be too much for him, try early to find the cause and remedy it. Too often such children are merely considered dull, when in reality they have not been given a fair chance. Attention at this time may not only give the child a much better start, but save many doctor bills later.

#### Back Yards.

We have in mind two back yards as different as two things supposed to be of the same character, could be. The one was a solid bluegrass sod, with concrete walks across it. The only decorations were a small old-fashioned flower bed at the edge, a row of sweet peas, and a neatly posted clothes line. The other yard was a storage for the calf-feeding buckets, the milk pails, wash tubs, gasoline and kerosene cans, and in fact

### 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. 7419—Child's Night Drawers: Cut in sizes 1, 3, 5, 7 and 9 years. These night drawers are made with a square yoke in front and with the front and the drawers below the yoke in one piece. In the back there is a division across the waist line and the closing down the center. No. 7426—Ladies' Waist: Cut in sizes 34 to 42 inches bust measure. In this charming waist there are three undrunk box plaits of yoke depth at each side of the front, with the material plain and full below. The back is entirely plain. At the neck is an adjustable collar, worn high or low. No. 7434—Girl's Dress: Cut in sizes 6, 8, 10 and 12 years. This pretty dress has a surplice vest to break the otherwise plain waist and a pretty collar at the round neck. The sleeves may be long or short with or without a cuff. The fancy for box plaits has found its way into the skirt, which is box plaited all around. No. 7425—Ladies' Dress: Cut in sizes 34 to 46 inches bust measure. In this popular one-piece dress we have a plain waist with bias closing. The open neck is trimmed with a wide collar, and there is a fancy belt at the waist. The puff sleeves are long, ending in a cuff. The skirt has four gores. No. 7421—Ladies' Skirt: Cut in sizes 22 to 32 inches waist measure. The full skirt is among the most popular, and this design preserves the slenderness of the hip outline by the use of a deep yoke. This is fitted in the center back and at the sides and closes in front. Below the yoke the material is adjusted in three gores. No. 7395—Ladies' Apron: Cut in sizes 36, 40 and 44 inches bust measure. This natty apron is made in princess style, with a semi-fitted panel in front joined to the side bodies by seams which extend from shoulder to hem. The center back and side back portions are joined in the same manner and the closing is placed in the center of the back.

everything else that was not wanted in the house.

The members of the two families were entirely different, too. Those with the orderly yard possessed a composure and systematic ways of doing things that made them masters of their work. The neat yard was not responsible for this virtue, but was one of the many fruits of it.

When we stop to think about it, we will all admit that we can do better work amid pleasant, harmonious surroundings, and this one reason is sufficient to justify a pleasant outlook, in the form of a neat back yard, for the busy housewife.

#### Boiled Onions With Sauce.

Peel the onions and cut off the roots, dropping into cold water as fast as they are peeled. Drain from the cold water and put in a stewpan with boiling water to cover generously. Add a teaspoonful of salt for each quart of water. Boil rapidly for ten minutes, with the cover partially off the saucepan. Drain off the water and cover the onions with hot sweet milk (a quart of onions will require a pint of milk). Simmer for half an hour. Beat together one tablespoonful of butter and one level tablespoonful of flour. Add one teaspoonful of salt and one-fourth of a teaspoonful of white pepper. Gradually beat in about half a cupful of the milk in which the onions are cooking. When smooth, stir the mixture into the onions and milk. Let the dish cook ten minutes longer and serve.

#### How to Measure an Ounce.

(Cut this out and save it.)

Here is a help for the busy housewife. Cut this out, paste it on a card, and keep it in your kitchen or cooking pantry where you can see it. Many a recipe calls for "one ounce" of some ingredient and as scales are not always handy and weighing takes up valuable time, this table will prove a help and a time-saver:

An ounce of granulated sugar equals two level tablespoonfuls.

An ounce of flour, four level tablespoonfuls.

An ounce of butter, two level tablespoonfuls.

An ounce of ground coffee, five level tablespoonfuls.

An ounce of cornstarch, three level tablespoonfuls.

An ounce of thyme, eight level tablespoonfuls.

An ounce of grated chocolate, three level tablespoonfuls.

An ounce of pepper, four level tablespoonfuls.

An ounce of mustard, four level tablespoonfuls.

An ounce of salt, two level tablespoonfuls.

#### All Patterns 10 Cents Each.

As owing to the large number of departments, it is not possible for us to illustrate the very many new designs that come out each month, we have made arrangements to supply our readers with a quarterly fashion catalogue illustrating nearly 400 practical styles for ladies, misses and children, illustrating garments all of which can be very easily made at home. We will send the latest issue of this quarterly fashion book to any address in the United States, postage prepaid and safe delivery guaranteed, upon receipt of 10 cents.

#### Baby's Habits.

The child begins to form habits very early in life, and the mother can do much toward starting him right.

The baby should sleep alone. This does not mean that it is necessary to buy a bed for him—at least not for awhile. But even the necessity for purchasing a bed should not be allowed to stand in the way of baby's health.

An ideal bed for the very small babe is a good-sized clothes basket. Put a blanket in the basket, bringing it up over the sides to protect from drafts. Place a pillow in the bottom. See that the baby is well covered and warm, but free to kick, and breathe plenty of fresh air, and he will be much more comfortable than if sleeping with others, and it will be much better for him.

He should also sleep at regular times. It is often very hard to accomplish this, but the reward is well worth the effort. It is training the baby in regular habits, and the mother can better gauge her time for other things.

Regularity in time of bathing should also be practiced. This, too, benefits both baby and mother. The bath can be given either in the morning or evening, but should be given at the same time each day. If the baby sleeps all day after his morning bath, and is restless at night, change the hour for the bath to an evening one and see if he will not sleep all night.

Regular feeding hours will have their part in making the baby happier and

healthier, and this practice will also mean that the mother will have more time at her disposal. The doctor should advise as to the frequency of feeding.

As soon as baby's first teeth come, his mouth should be cleansed regularly. Tiny toothbrushes can be bought. Prepared chalk is good to use with the brush. Many times a good-tasting tooth powder will have a yielding effect when other efforts fail. By going about it tactfully, the child will soon lose his horror of the toothbrush. As the second teeth very often depend upon the way the first set was cared for, we should persevere in keeping the first teeth clean and free from decay. It will not be many years before pride in keeping his mouth clean, will be developed in the child.

Neglect in caring for the child's teeth will show up in second teeth not as good as they might have been, and in a weakened stomach.

#### Laundry Hints.

No housework is harder than that of keeping the family supplied with fresh, clean clothes. But because the health as well as the comfort of the body demands clean clothes, there must be some way of supplying this demand. On the average farm this task must be performed by the housewife, and for the same reason that her husband buys the sulky instead of the walking plow, she should insist on the purchase of a power washer instead of a hand machine.

There are many types of power washers on the market and the housewife should make a careful investigation of their relative merits before purchasing. The platform upon which the washer stands should be taken into consideration, also. Such investigation can be made by examining the makes carried in stock by the local dealer and by writing for printed matter and particulars covering other types.

Where electricity is available, electric washers are the cheapest, and because of their simplicity of operation are the most satisfactory. A good electric machine can be obtained for fifty-five dollars. But on the farm the gasoline engine must be substituted for the electric motor, and the price of engine and washer with wringer attached, will not be less than sixty-five dollars. These prices may seem a little high to the conservative woman, but she should consider the saving of her time, labor, and strength, as worthy of the price.

With the power washer soft water will give the best results, and because soft water is just as desirable for cleansing the body as for cleansing the clothes, every house should have a cistern with the pump in the kitchen. With soft water, plenty of good soap, and a good machine, the week's washing can be done with as little effort as can many of the other household duties.

To insure safety in drying the clothes, the line should be more substantial than the one fastened to the corner of the house and a nearby telephone pole. A desirable clothes line arrangement is three posts set in line a reasonable distance apart, with cross-pieces at the top of the posts to which two wires may be attached, instead of one. Then, to lessen the number of steps to be taken in hanging up the clothes, the basket should be placed upon a little express wagon or a platform on wheels. In this way the clothes may be taken along down the line, obviating the necessity for the one hanging the clothes going back and forth to the basket.

For ironing, a good solid table and an electric, gasoline or alcohol iron are indispensable. The home-made ironing board is a good substitute for the table when ironing skirts and one-piece dresses. This can be made of red cedar and should be five feet long and sixteen inches wide. One end should be tapered so as to be narrow enough to slip the garment over it without stretching. A hole can be bored through the other end for the purpose of hanging up the board when not in use. Table matting makes an excellent padding for the board, but old blankets or sheets can be used instead. Two covers should be made for it and these should be so made that they can be easily removed for laundering when they become soiled. A convenient method is to fasten tape on both sides of the cover for tying it on the board. A sleeve board can be secured for a reasonable price and it is a great help in ironing infants' clothes and sleeves.

A mangle or ironing machine is desirable if there is much flat work—bed and table linen and towels—to be ironed. Mangles are little used outside of a public laundry, but deserve to be better known. They save much time and labor, and if the rolls are heated properly, do excellent work.—STELLA MATHER, Division of Extension, Kansas Agricultural College.

# Karo Premium Griddle

## \$2.25 SOLID ALUMINUM GRIDDLE FOR 85 CENTS IN CASH AND LABELS FROM 50 CENTS' WORTH OF KARO—GET YOUR KARO LABELS AT ONCE AND SEND FOR YOUR GRIDDLE

**EVERYBODY** these days knows aluminum ware—the highest priced and most satisfactory kitchen ware used in this country.

Here is your chance to get a 10½ inch Solid Aluminum Griddle for less than the wholesale price.

This Aluminum Griddle needs no greasing. It heats uniformly all over; it doesn't smoke up the house; it doesn't chip; it doesn't rust and it looks so much better and cleaner than any of the old kind of griddles.

It bakes Griddle Cakes that are really just as crisp as you want them to be. With Karo on them, they are the finest eating in the world—and so digestible because baked without grease that many people who haven't dared to eat griddle cakes for years, are enjoying Karo and Griddle Cakes now.

At great expense we are seeking to place a Karo Aluminum Griddle in the homes of all Karo users, so that Karo—the famous spread for griddle cakes and waffles—may be served on the most deliciously baked cakes that can be made.

Go to your grocer today and get 50 cents worth of Karo and send us the labels and 85 cents in stamps or money order at once. You'll get your Aluminum Griddle by prepaid parcel post.

You know Karo, no doubt. It is the best known and most universally liked syrup in this country. Last year 65,000,000 cans were used.

Get your Karo today—and send us the labels and 85 cents at once, so as to be sure of getting yours. We will also send you free the famous Corn Products Cook Book.

**Corn Products Refining Co.**  
P. O. Box 161 New York Dept. 106



## BARGAINS IN WHEAT LAND

POSITIVELY NO TRADES CONSIDERED.

This land has proven its ability to make 20 per cent net each year on the value asked. It is offered for sale, as the owner is ready to retire.

#### FARM NO. 1.

Harper County, Kansas, containing 160 acres; sandy loam with clay mixture; 90 acres in wheat, 20 acres ready for spring crops, 50 acres pasture. All fenced and cross-fenced. Running water, two wells. Four-room house, cave, etc. Stable for eight horses, cattle sheds and other out-buildings. Cash price, \$30 an acre.

#### FARM NO. 3.

160 Acres, 110 acres broke, 60 acres in wheat, 50 acres ready for spring crop; 50 acres mow land on creek bottom; all fenced, meadow cross-fenced; running water, well, granary and stock sheds; good hard wheat lands. \$25 per acre, cash.

#### FARM NO. 2.

480 Acres, Harper County, Kansas. 160 acres broke, 100 acres in wheat, 60 acres ready for spring crop, all good hard wheat land. \$25 an acre, cash.

#### FARM NO. 4.

74 Acres in Sedgwick County, Kansas. All broke, all fine alfalfa land; 6 acres in alfalfa, balance in wheat, was alfalfa; fenced; good house, well, barn for four horses, and usual outbuildings. Near station; 10 miles from Wichita. \$100 an acre. Balance of quarter in alfalfa and can be had for \$115 an acre.

WRITE TO H. N. HOVEY, CARE KANSAS FARMER, TOPEKA, KANSAS.

## FOR 50 CENTS Get a Platinum Plate Metal Polisher & Sterilizer

Very quickly cleans silverware and metal surfaces of every kind. No rubbing—no powder—no paste. Immerse the platinum plates in the dish water and your silverware is always clean and sterilized. Send 50 cents, check, money order or stamps.

**CHAS. CLARKE, 334 Kansas Ave., Topeka, Kans.**

## CORN, ALFALFA AND LIVE STOCK

THE PROFIT-PRODUCING COMBINATION.

Do you want a nicely improved quarter section, highly productive, two miles from Marysville, the county seat of the banner corn county in Kansas? A bargain for someone at \$16,000, with favorable terms. For particulars address

**X. Care, Kansas Farmer**

#### Puree of Dried Beans.

Cook one quart of beans in water until very soft, then drain well (saving the water) and rub through a puree sieve. Put one pint of the strained beans in a stewpan with two tablespoonfuls of butter or savory drippings, one teaspoonful of pepper, and hot milk enough to make the puree like thick mush. About half a pint of milk will be right. Cook in the

double boiler for one hour, stirring often and adding more milk if too dry. Heap the puree in the center of a hot plate. Garnish with a circle of fried sausages, pork chops, mutton chops, or any fat meat. The puree may be served as a vegetable, with any kind of meat. A soup may be made with the water in which the beans were cooked and the remainder of the strained beans.

# 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.

**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.

**SALESPERSONS WANTED—TO SELL THE** Arcadia Medicated Chicken Roosts, to farmers and poultry raisers. Sure protection against lice, mites and sickness. A wonderful success, low cost, good profit. Information free. Arcadia Mfg. Co., Aurora, Ill.

**MEN AND WOMEN WANTED EVERYWHERE.** Government jobs. \$70 month. Short hours. Vacation. Big chance now for farmers. Write immediately for list of positions now obtainable. Franklin Institute, Dept. F-82, Rochester, N. Y.

**WANTED IMMEDIATELY, 500 MORE** men, 20-40, for motormen and conductors. May need more later. Salary \$60-\$100 monthly. Experience unnecessary. Rural and small town men preferred. Write for application blank. Address Supt. Employment, National Railway, Kansas City, Mo.

## REAL ESTATE.

**120 ACRES, CLOUD COUNTY, IMPROVED, \$5,000.** 1315 Lincoln, Topeka, Kan.

**FOR SALE—PANHANDLE AND OKLAHOMA** land. Write D. Thoburn, Higgins, Texas.

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

**IF YOU WANT TO SELL OR EXCHANGE** your farm, write us. Black's Business Agency, Desk C, Chippewa Falls, Wis.

**WANTED—TO HEAR FROM OWNER OF** farm or unimproved land for sale. C. C. Buckingham, Houston, Texas.

**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.

**BUY A FARM IN CENTRAL ARKANSAS.** The last crop of land in the Little Rock district at \$10 to \$15 per acre. Any size tract from 20 acres up, long time terms. Soil and climate adapted to truck gardening, poultry, fruit growing, stock raising and general farming. Send for literature or visit our lands now. Trentman Land Company, Little Rock, Ark.

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## CATTLE.

**RED POLLED, WILKIE BLAIR, GIRARD,** Kan.

**FOR SALE—A FEW BRED GRADE** Guernsey heifers. Herman Zinn, Box 348, Topeka.

**FOR SALE—PURE-BRED POLLED DURHAM** bulls. Priced right. L. B. Streeter, Wakefield, Kan.

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**HOLSTEINS—TWO FINE REGISTERED** bulls for sale cheap. Warren S. Neff, Glen Elder, Kan.

**FOR SALE—ONE REGISTERED HOLSTEIN** bull, eight months old. J. A. Forth, Overbrook, Kan.

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**ALYSDALE SHORTHORNS FOR SALE—** Six good registered Shorthorn bulls of serviceable age, red in color, prices very reasonable. Write or call upon C. W. Merriam, Columbian Bldg., Topeka, Kan.

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**FOR SALE—CHOICE PURE-BRED COLLIE** pups from well trained parents, at let live prices. L. A. Whitten, Fairmont, Neb.

**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.

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

## 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.

## TRACTORS.

**FOR SALE—ONE AVERY TRACTOR, 20-** 35; one Avery five bottom 14-inch engine gang plow; one LaCrosse 6-disk engine plow; each unit in good condition. Will consider good live stock in part payment. Thos. R. Dale, 114 So. Wichita St., Wichita, Kan.

## WANTED

**WANTED—NICE WHITE WOOLY ES-** kimo-Spitz puppies, about six weeks old. Brockway's Kennels, Baldwin, Kan.

## MISCELLANEOUS.

**FERRETS, FERRETS, RABBITS, GUINEA** Pigs, Toulouse Geese. (Jewell), Spencer, O.

**ADVICE, INFORMATION, ANY SUB-** ject, your price. Box 847, Malvern, Ark.

**FOR SALE OR TRADE—ONE GASOLINE** plowing and threshing outfit. Bender & Schwab, La Crosse, Kan.

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

**HALDEMAN'S AUTOMATIC HOG FEED-** ers are the things to make hogs pay. C. B. Haldeeman & Co., Distributors, Box 13, Concordia, Kan. Independent Phone 430.

**FOR SALE—MEAT MARKET AND GRO-** cery. Only market in town of about 400 population; good town and trade. Very reasonable. Write Marius Christensen, Ruskin, Neb.

**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 \$1.00. Send all orders to Kansas Farmer, Topeka, Kan.

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**BLACK WALNUTS, 80 CENTS BUSHEL.** Nice fresh walnuts, sacked and delivered at express or freight office, only 80c per bushel. Pecans, 10c pound. Best shelled Rice Pop Corn, pops fine, 10 pounds 50c. Finest pure Peanut Butter, one pound 20c, 2 1/2 pounds 40c, 4 1/2 pounds 70c, 9 pounds \$1.25, 55 pounds \$6.60. In air-tight tin cans. Write today for circular. Henry Jefferies, Ottawa, Kansas.

## SITUATION WANTED.

**MARRIED MAN WITH ONE CHILD** wants farm work by month, day or year. Work on shares considered. Owns team and wagon. S. J. Shules, Norton, Kan.

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When writing advertisers, please mention Kansas Farmer.

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**TREES AT WHOLESALE PRICES—** True to name. Packed with care. Fruit book free. Wellington Nurseries, Dept. G, Wellington, Kan.

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**TAKEN UP—BY J. BRIGGS, IN DAR-** lington Township, Harvey County, post office address Newton, R. R. 5, on the 17th day of November, 1915, one iron grey gelding, four years old, weight about 1,080 pounds, shod in front. No marks. Appraised at \$80.00. C. A. Young, County Clerk.

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**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, 116 Owen Bldg., Washington, D. C.

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**BLACK LANGSHANS—STOCK FROM** blue ribbon and sweepstakes winners, young and old. Reduced prices. Mrs. D. A. Swank, Blue Mound, Kan.

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**"BEAUTIFUL" SILVER WYANDOTTES,** \$1.50 to \$5. Write Mrs. Edwin Shuff, Plevna, Kan.

**WHITE WYANDOTTES, WORLD'S FAIR** winners. Mammoth Pekin and Buff Ducks and capons for mothers for incubator chicks. Mrs. A. J. Higgins, Route 1, Effingham, Kan.

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**FOR SALE—PURE-BRED SILVER WY-** andotte cockerels, \$1.50 each; six for \$8.00. Choice breeding. Mrs. Philip Schuppert, Arlington, Kan.

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**GOOD PURE-BRED MAMMOTH BRONZE** turkeys. Saddle Litton, Peabody, Kan.

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**MAMMOTH BRONZE TURKEY TOMS** for sale, fang raised, five dollars each. Zada Black Hulbert, Lakeland, Kan.

**MAMMOTH WHITE HOLLAND TUR-** keys—Toms twenty-four, pullets fifteen and sixteen pounds. Miss Lillian Schaal, Lexington, Mo.

**CHAMPION BRONZE TURKEYS, SIRE** by sons my 52-pound champion tom. Well marked, white edging, won many prizes in largest show. Pleased customers in thirty states. Ike Hudnall, Milan, Mo.

**MAMMOTH BRONZE TURKEYS FROM** strains that have won at the leading shows. White Holland toms, genuine wild mallards domesticated. Buff Rock cockerels, eggs in season. Mrs. E. B. Powell, Higginsville, Mo.

**MAMMOTH BRONZE TURKEYS OF EX-** cellent breeding and quality. Parents winners at Kansas State and other shows. 1915 hatch won at late Panama-Pacific Exposition. Write your wants. Mrs. H. E. Bachelder, Fredonia, Kan.

When writing advertisers, please mention Kansas Farmer.

## PLYMOUTH ROCKS.

**BUFF ROCKS—FANCY STOCK CHEAP.** Geo. R. Scherman, Olathe, Kan.

**DUFF'S MAMMOTH BARRED ROCKS—** A. H. Duff, Larned, Kan.

**FOR SALE—A FEW WHITE ROCK** cockerels at from \$2 to \$5 each. Thomas Owen, Route 7, Topeka, Kan.

**CHOICE BARRED PLYMOUTH ROCK** cockerels, \$1.50 to \$3.00 each. E. Leighton, Effingham, Kan.

**BUFF ROCK PULLETS, SISTERS TO** my Kansas City and Topeka winners. Also cockerels. E. D. Small, Wilson, Kan.

**PURE-BRED BARRED ROCK COCKER-** els for sale; prize winning stock, \$1.50 each. Elvis Carter, Bunkerhill, Kan.

**BUFF ROCKS—EGGS FOR HATCHING.** Prices reasonable. Write for list. William A. Hess, Humboldt, Kan.

**BUFF ROCK COCKS AND COCKERELS.** High quality. Mrs. Wm. Small, Wilson, Kan.

**CHOICE BARRED PLYMOUTH ROCKS—** Cockerels for sale, from \$1 to \$5 each. Farm raised. F. A. Hurd, Goodland, Kan.

**WHITE ROCKS, SIZE AND QUALITY.** Satisfaction guaranteed. G. M. Kretz, Clifton, Kan.

**RINGLET BARRED ROCKS—BEST** blood lines. Satisfaction guaranteed. T. J. Embry, Baxter Springs, Kan.

**FOR SALE—WHITE PLYMOUTH ROCK** cockerels. Range birds, \$1 each, six for \$5. Write for prices on Fishel stock. Mrs. C. J. Hose, Osborne, Kan.

**PETTIS BARRED ROCKS—HIGHEST** scoring cockerels St. Joseph and Kansas City. Heavy laying strain. Cockerels, cocks, \$2 up. Mrs. P. A. Pettis, Wathena, Kan.

**CHOICE BARRED PLYMOUTH ROCK** cockerels, Bradley strain. Parks 200 egg strain, \$2 to \$5. Gem Poultry Farm, Haven, Kan.

**BUFF ROCK COCKERELS BRED FROM** Frisco World's Fair champions, \$5 each; elegant breeders. C. R. Baker, Box F, Abilene, Kan.

**MAMMOTH STAY WHITE ROCK COCK-** erels. Twelve years a breeder for size and quality. Eggs in season. Charles Vorles, Wathena, Kan.

**BUFF ROCK COCKERELS FROM** Poley's "World Best" exhibition strain. Big growthy fellows, \$2.50 to \$5.00. G. W. Perkins, Newton, Kan.

**LINDAMOOD'S BARRED ROCKS—VERY** best laying strain. Fine cockerels for sale, hatched from prize winning pens. Light and dark matings. Price \$2.50 to \$5. C. C. Lindamood, Walton, Kan.

**WHITE PLYMOUTH ROCK COCKERELS** for sale at very reasonable prices. Bred from our Kansas City, Missouri State and other winners. A. E. Glass, Harrisonville, Mo.

**BARRED PLYMOUTH ROCKS—FIRST** winners; best exhibits Missouri, Nebraska, Kansas, Oklahoma. Exhibition and breeding males. J. K. Thompson, 205 The Drive, Topeka, Kan.

**FOR SALE—CHOICE BARRED PLY-** mouth Rock cockerels from champion colored cockerel at Kansas City Poultry Show, January, 1915. Prices, \$2.50 to \$5. L. P. Coblenz, La Harpe, Kan.

**ONE HUNDRED BARRED PLYMOUTH** Rocks, cocks, cockerels, hens, pullets, bred from prize winners. Thompson and Bradley blood, about as good as they grow. Write your wants. J. L. Deeds, Lyons, Kan.

**BARRED PLYMOUTH ROCK COCKER-** els and pullets. Standard bred of best blood lines in U. S. Return at my expense if not satisfactory. Write A. W. Nickols, 603 North D St., Indianapolis, Iowa.

When Writing to Advertisers, Please Mention Kansas Farmer.

**WHITE ROCK COCKERELS, WHITE** Ivory strain. Big growthy fellows, including first prize cockerel, Central Kansas Poultry Show, \$2.50 to \$5.00. G. W. Perkins, Newton, Kan.

**WHITE ROCKS—A KIND THAT WILL** satisfy you both in the show room and egg basket. Cockerels, \$2 and \$3 each; also hens and pullets. Frank Lott, Danville, Kan.

**WHITE PLYMOUTH ROCKS STILL** hold their popularity. Barring one, they were the largest class at the World's Fair at San Francisco. Good to lay, good to eat and good to look at. I have bred them exclusively for twenty-four years and they are one of the best breeds extant. Eggs from first-class birds, the same kind I hatch myself, \$2 per 15, \$5 per 45, and I prepay express or postage to any part of the Union. Thomas Owen, Route 7, Topeka, Kan.

**LANIER'S BRED-TO-LAY BARRED** Plymouth Rocks of superlative quality. (Pittsfield and J. W. Parks strains.) They are standard-bred, every one of them. The males that head our pens are pedigreed, whose dams with records of 210 eggs or better. We have females that are bred from high record hens. If interested in filling the egg basket, we can supply you in eggs for hatching, four and eight-week-old chicks. Write for prices today to DeWitt Lanier, Barred Rock Specialist, Cardwell, Mo.

## BRAHMAS.

**LIGHT BRAHMAS—FIFTEEN EGGS, \$3.** Hens, \$2. Nicholas Bach, Hays, Kan.

**DARK BRAHMAS—FIFTEEN EGGS, \$3.** Pullets or hens, \$2 each. Cockerels, \$5. Nicholas Bach, Hays, Kan.

**I SHIP MY LIGHT BRAHMAS AND** eggs everywhere from New England to California, from Canada to Florida. Winning the highest premiums wherever shown. Pictorial price list for asking. Mrs. J. R. Kenworthy, Wichita, Kan.

## POULTRY WANTED.

**PAYING 12c HEAVY HENS, DUCKS AND** geese 11c, turkeys 17c, guineas dozen \$4, pigeons 9c. The Coper, Topeka.

## CORNISH

**WHITE CORNISH—SILVER CUP WIN-** ners. Cockerels for sale. Spellman & Spellman, Fredonia, Kan.

## Concrete Walls and Foundations

FOR the various farm buildings concrete is a most convenient as well as permanent material for foundations or walls.

Concrete walls are easily constructed and at low cost and are especially suitable for farm entrances or enclosures about farm buildings. Where merely serving the purpose of an enclosure, such as a barnyard or poultry yard, it is not necessary to make the wall more than six inches thick.

The most important consideration in the construction of any wall is a firm foundation, sufficiently deep to prevent heaving by frost. In most localities this distance is three to four feet. When the earth is firm and the sides of an excavation will stand up vertically, it is unnecessary to use wooden forms for the portion of wall beneath ground level. A trench of the required width should be dug, taking care that the sides of the trench are straight, vertical and fairly smooth. The width of all walls below ground level should be at least twelve inches. Where sandy or crumbly earth is encountered, it is best to use wooden forms below ground level. In depositing the concrete in the foundation trench see that no dirt falls into it as this would weaken the wall. The proper propor-

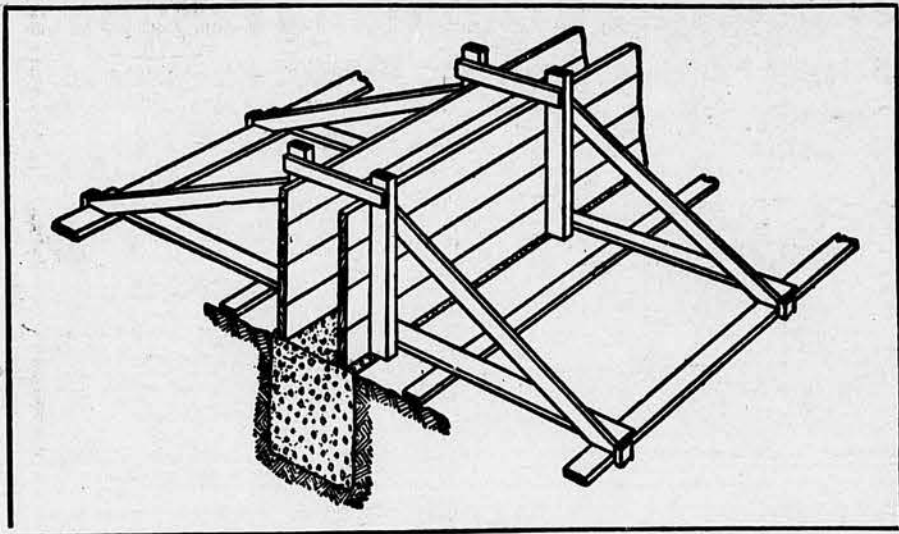
Magnesium sulphate, 10 ounces; magnesium oxide, 1 ounce; iron sulphate, 2 ounces; ground ginger, 2 ounces; sulphur, 3 ounces.

One tablespoonful of this mixture in moist mash is a dose for twelve birds. Such a dose should be given each morning for three mornings, and then discontinued for a week or ten days.

Potassium permanganate may also be used in the drinking water—as much as can be piled on a ten-cent piece, in a gallon of water.

Apparently, chickens are subject to much the same ills that afflict human beings at this season of the year—colds, catarrh, bronchitis, pneumonia, diphtheria, and roup.

The careful poultryman will visit his roosts at night and look and listen for signs of colds. He will at once remove any birds showing symptoms of disease, in order that the rest of the flock may not be infected. Labored breathing, wheezing, rattling in the throat, gaping, and sneezing, are symptoms to be looked for. The bird showing these symptoms should be treated at once with one of the following mixtures: Zenoleum and kerosene, equal parts; sweet oil and kerosene, equal parts; or chloroform, one part, and cottonseed oil, three parts.



tions for walls below ground are one bag of Portland cement to two and a half feet of sand to five cubic feet of crushed rock or pebbles. When the trench is filled with concrete to ground level, a simple form, as shown in the drawing, is set in place. The surface of the foundation at ground level must be entirely free from dirt, chips or other foreign substances, and the concrete roughened before depositing upon it the above-ground portion or wall proper. The minimum thickness of walls for very light structures may be four inches, although it is very difficult to properly place concrete in a wall this thin. A thickness of six inches is better for most purposes. The proportion of walls above ground should be one bag of Portland cement to two cubic feet of sand to four cubic feet of crushed rock or pebbles. Bank-run gravel may be used if the pebbles are separated from the sand by screening through a one-fourth-inch screen. For the above-ground portion of walls the forms should be made with care, the boards being carefully matched so that a smooth surface will be obtained in the finished wall. This result is obtained by spading the concrete as it is being placed in the forms. Spading consists of thrusting between the form and the fresh concrete a thing wooden paddle. This serves to force the stone back into the concrete, allowing a rich mortar coat to flow against the forms. In walls above ground it is well to reinforce with small steel rods or wire mesh. This reinforcing runs in both directions and serves to prevent any cracks due to settlement or other causes.

Walls for buildings can be constructed as described, but for buildings of considerable size the thickness of the walls should be eight inches, and one or two lengths of rods should be laid about two inches above the tops of windows, doors and other openings.

### Tonics for Hens Helpful.

To get the best results from the poultry yard, great care must be used to protect chickens from diseases induced by changes in the weather, by poor ventilation, exposure to drafts, and other things. One means of securing such protection is the use of tonics. A tonic of tried quality is suggested by N. E. Chapman, poultry specialist of the agricultural division of the Minnesota College of Agriculture. It is made as follows:

The head of the chicken should be immersed in the mixture for a moment, or a small amount of the mixture should be injected through the nostrils and mouth. This should be supplemented with the tonic already recommended, or with epsom salts in moist mash—one teaspoonful to each bird. The bird should then be kept in dry quarters and fed bread soaked in milk, and cabbage leaves.

If the roup develops, with a fetid odor, infected birds should be killed and burned, and all birds and chicken houses should be thoroughly disinfected.

### Skim Milk and Meat Scrap for Poultry.

Feeding skim milk or meat scraps to poultry helps materially in egg production, said A. G. Phillips, professor of poultry husbandry at Purdue University, to the gathering at Manhattan Farm and Home Week.

"Grain is the chief food given to poultry on general farms," said Professor Phillips. "Outside of this the birds must hunt for their ration. During a large part of the year Nature's food is not abundant, and hens do not lay. One particular addition to the grain that is very important is skim milk or meat scrap. Grains lack a sufficient amount of that element known as protein, for laying hens.

"In an experiment carried on at Purdue University for the last four years where meat scraps, skim milk, and fish scraps were used as a source of animal protein, the results are marked. The average egg production of the hens fed none of these three feeds was 32½ eggs a year. In the meat scrap pen the egg production was 135 eggs; fish scrap pen, 128 eggs; and skim milk pen, 135.4 eggs per bird.

"Everything points toward the fact that the difference in egg production was due to the addition of one of these three feeds to a ration composed of corn, wheat, oats, bran, and shorts. For every 100 pounds of milk fed the birds, there was a return of \$2.04 in eggs. For every 100 pounds of meat scrap fed there was \$23.92 returned in eggs. A fowl's ration must not lack in animal protein."

The price difference between ham, lard and bacon and hog on the hoof shows the money gain for farm butchering and smoking.

## ATTENTION! POULTRY BREEDERS

The buying season for pure-bred poultry is here. Farmers and poultry breeders all over the country are looking for breeding stock and eggs.

### THE SPECIAL POULTRY EDITION OF KANSAS FARMER WILL BE ISSUED FEBRUARY 5



Will place your offering before thousands of prospective customers.

You cannot afford to miss this opportunity to place your offering in a sure market. All copy must be in the office not later than January 29. GET YOUR ORDER IN NOW. Address all orders to



**KANSAS FARMER, TOPEKA, KANSAS**

### THE STORY OF THE SOIL

CYRIL G. HOPKINS

of  
The University of Illinois  
Author of  
SOIL FERTILITY AND  
PERMANENT  
AGRICULTURE  
Published for  
KANSAS FARMER  
Topeka, Kansas  
SPECIAL EDITION

### SPECIAL OFFER ON This Splendid Farm Book

#### "THE STORY OF THE SOIL"

Is an intensely interesting volume giving you in the form of a story, all the essential facts regarding the formation of soil, how to fertilize it, what fertilizers accomplish, how to restore flooded or worn-out land, what are the plant foods, and treating in a simple way some of the big agricultural problems of the United States. Every farmer should have this book, if not for himself, then for his sons and daughters. It will interest them in nature and they will get an insight into soil culture that they may not obtain in any other way. The author of the book is Cyril G. Hopkins, of the University of Illinois, one of the foremost authorities on scientific farming. The cloth bound edition price by mail is \$1.15. However, Kansas Farmer has secured the same volume, 362 pages, complete on good paper and large clear type, in paper binding, with beautiful colored illustrations, and we will send this book postpaid and under or renew your subscription to Kansas Farmer for one year for only \$1.10. This is our best book bargain for this year. Send all orders to

**KANSAS FARMER, TOPEKA, KANSAS**

### RHODE ISLANDS.

RHODE ISLAND WHITE COCKERELS, \$1.25. Will Tonn, Haven, Kan.

DARK ROSE COMB RED COCKERELS—Prices right. Louis G. Roth, Holyrood, Kan.

FINE RHODE ISLAND RED COCKERELS, \$1 to \$3. Mrs. F. A. Fulton, El Dorado, Kan.

FIVE HIGH-SCORING R. C. RED COCKERELS, \$3 each. Mrs. Howard Martindale, Madison, Kan.

SINGLE COMB RED COCKERELS, large, husky, deep red, for \$2.50 each. Guaranteed. Creighton Harper, Roca, Neb.

FINE ROSE COMB RED COCKERELS—Baby chicks in season. Order early. Lily Robb, Neal, Kan.

GOOD SCORING EXTRA LARGE BONED fine S. C. dark red cockerels and pullets, \$2.50 and \$5. Satisfaction guaranteed. Lela Osterfoss, Hedrick, Iowa.

SINGLE COMB REDS—THREE EXTRA fine matings, \$1, \$2 and \$4, fifteen eggs. Few good cockerels. C. E. Florence, El Dorado, Kan.

RHODE ISLAND REDS—FIFTEEN EGGS \$3; hens or pullets, \$2 each; cockerels, \$2 to \$15; cocks, \$1. All good ones. Nicholas Bach, Hays, Kan.

BRED TO LAY S. C. REDS, CHOICE cockerels from the finest lot I ever raised, \$1.50 to \$3.50. Eggs, \$1.00 setting, \$4.00 hundred. Guaranteed. Belmont Farm, Box 69, Topeka, Kan.

HASHMAN'S SHO - U STRAIN ROSE Rose Comb Reds, cocks and cockerels, \$2, \$3, \$5. Shipped on approval. Grandsons of Dr. Watson's Chicago champion. Rollie J. Hashman, Ottawa, Kan.

FIFTY ROSE COMB RED COCKERELS for sale at right prices. Every one a good breeder, just the birds to improve egg production. E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

\$2.50 SENT TODAY WILL BUY ONE early-hatched Rose Comb Red cockerel, bred from World's Fair winners. Great laying strain. J. M. Clark, 1012 Baltimore, Kansas City, Mo.

100 ROSE COMB RED COCKS AND cockerels, sired by roosters costing \$15 to \$75. \$1.50, \$3, \$5, \$7.50 each. A few higher. 1916 pens best ever. W. R. Huston, Americus, Kan.

FOR SALE—FULL BLOOD ROSE COMB Rhode Island Red cockerels. American Beauty strain. Took first and second prizes, besides several specials, at two shows this year. Prices, \$2 and \$3. A. W. Hibbets, Damar, Kan.

MACK'S S. C. RHODE ISLAND REDS—Bred for beauty and bountiful egg production. Winners at the large shows. Champion cockerel, cock, and pen, at Nebraska Mid-State Show, '15, '16. Six grand matings for 1916. Prices reasonable. Good breeding cockerels and pullets cheap. Catalog free. H. H. McLellan, Kearney, Neb.

### PIGEONS.

PIGEONS—WILL PAY \$1 DOZEN. OLD birds delivered February 3 only. The Copes, Topeka.

BIG MONEY BREEDING GIANT CARNAU pigeons. Cost \$4, selling a few at \$1 per pair. H. C. Neptune, Parsons, Kan.

### LEGHORNS

PURE-BRED SINGLE COMB WHITE Leghorn, White Wyandotte cockerels, \$1.00 each. A. F. Hutley, Maple Hill, Kan.

### LEGHORNS.

WHITE ROCKS, WHITE LEGHORNS. Priced right. Ross Lane, Newton, Kan.

BIG PRIZE ROOSTERS, BUFF, CHEAP. Mrs. S. F. Crites, Florence, Kan.

SINGLE COMB WHITE LEGHORN cockerels of quality, \$1. Will Tonn, Haven, Kan.

S. C. BROWN LEGHORN COCKERELS—Extra quality, \$1 each, six for \$5. Mrs. L. H. Hastings, Thayer, Kan.

ROSE COMB BROWN AND SINGLE Comb White Leghorn cockerels, \$1 each. W. C. Gilmore, Onida, Kan.

S. C. WHITE LEGHORNS FOR SALE—Cockerels, \$1.50 to \$3; hens, \$1 to \$1.50. Mrs. M. Kittering, Route 4, Wichita, Kan.

PURE SINGLE COMB WHITE LEGHORN cockerels. Frantz Yesterlaid strains, \$1 to \$2. Eggs, Young Frantz Yesterlaid strains, \$4 per hundred. C. G. Cook, Lyons, Kan.

SEVERAL CHOICE SINGLE COMB White Leghorn cockerels. Young's strain. Prices, \$3 to \$5. Francis Elias, Wymore, Neb.

ENGLISH STRAIN WHITE LEGHORNS—Cockerels, pullets or hens, \$1 each. Eggs for hatching, in season. Mrs. Ben Johnson, Belton, Mo.

S. C. WHITE LEGHORN COCKERELS—Long back, bred for egg production. Farm raised. \$1.50, \$2 each. Dave Baker, Conway Springs, Kan.

THIRTY ROSE COMB WHITE LEGHORN cockerels, state and national winners. Price, \$2 to \$5. Satisfaction guaranteed or money refunded. Ruth McFarland, Route 1, Sedalia, Mo.

ONE HUNDRED SINGLE COMB WHITE Leghorn cockerels; Ackerman's famous laying exhibition strain. From 200-egg hens, \$1.50 up; winners for any show, \$4.00 up. Also few good females. Cedar View Stock Farm, Dr. C. E. Ackerman, Sec., Bolivar, Mo.

LAKEVIEW POULTRY FARM OF PEEBLES D. W. Young and Barron strains of S. C. White Leghorns, bred to win and lay. Won at Fredonia, Kan., 1915, six firsts, \$15 cup for best birds in show in strong class; Topeka, second cock, first, third cockerel, first, third pullet. I have thirty-five cockerels and some pullets to sell. Write for prices. Eggs in season. A. K. Sell, Fredonia, Kan.

### SEVERAL BREEDS

EGG CASES, 15c EACH. THE COPES, Topeka.

3,479 COCKERELS—41 VARIETIES—Chickens, geese and ducks. Seeds and trees. Aye Bros., Box 18, Blair, Neb.

ROSE COMB REDS, BUFF ORPINGTONS, Light Brahmas and Geese. Emma Ahlstedt, Roxbury, Kan.

TWENTY LEADING VARIETIES, EGGS and baby chicks. Write for information. Royal Poultry Yards, Coffeyville, Kan.

STOCK, EGGS, BABY CHICKS. LEGHORNS, Campbells, 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.

I HAVE SIXTY BRONZE TURKEYS yet. Pullets, \$3 to \$5; young toms, \$5 to \$10. I won all firsts, Dalhart, Texas, '12 and '13, and Unionville, Mo., 1914. Eggs for hatching, \$6.00 per dozen. Have some fine Barred Rock cockerels and Black Langshans for sale. Write your wants. J. W. Anders, Route 8, Unionville, Mo.

# H. B. Walter's Poland China Sow Sale at Effingham, Kans., Feb. 18

## 40 - Head Tried Sows, Fall Yearlings and Spring Gilts - 40

### THIRTY-FOUR HEAD TRIED SOWS AND FALL YEARLINGS AND SIX CHOICE SPRING GILTS.

NO. 1 of this offering will be Silver Tip by Long Jumbo 2d, bred to Big Bob Wonder for March 1 litter. She is a spring gilt and weighs 300 pounds. No better gilt will sell anywhere. NOS. 2 AND 3 are fall gilts by Moore's Halvor, dam Big Lady Wonder, dam of world's record big-type litter. They are bred to Big Bob Wonder for early March litters and are great brood sow prospects.

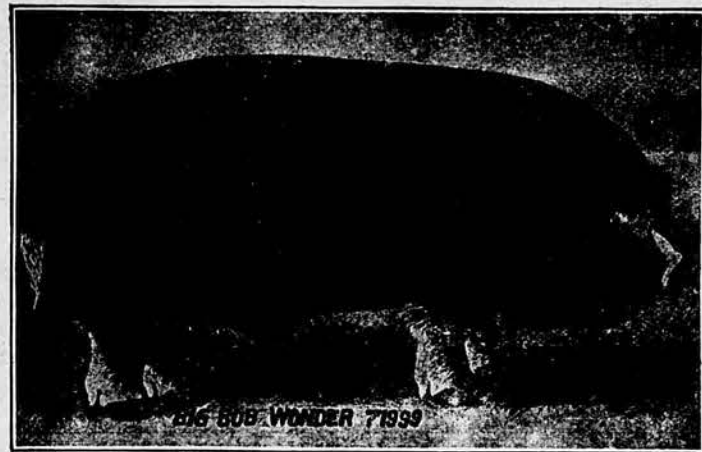
NOS. 4 AND 5 are two big stretchy summer yearlings, weighing over 500 pounds each. They were sired by Moore's Halvor, dam Lady N by Jumbo by Wade's Jumbo, and they are strictly first class. Lady Defender, a great brood sow, sells safe to Big Bob Wonder; Columbus Lady, a daughter of the champion Columbus, sells safe to service of Surprise Wonder, a son of Big Bob Wonder and a great young boar. Other good ones sired by Moore's Halvor, Walter's Expansive, King John, and other good sires.

**Sale on Farm Near Effingham, Kansas, February 18, 1916.**

Sale in pavilion, no postponement. Send for catalog at once. Everything immune. O. W. Devine will represent Kansas Farmer at this sale.

**H. B. WALTER, Effingham, Kansas**

Auctioneers—H. C. Duncan, J. C. Dickinson, C. A. Hawk.



## JERSEY CATTLE.

### OLIVER'S JERSEYS.

For Sale—Jersey bull dropped Nov. 15, 1914. Solid gray fawn, shading darker on sides and neck. Sire, Blue Belle's Owl 79641; dam, Fauvle's Wild Rose 253822, imported, ten months record milk 6,845.1 lbs.; fat, 328.44 lbs., on every-day care and dairy feed. This is a magnificent bull, guaranteed to please. Price, \$100. Address: ROLLA OLIVER, Box 701, St. Joseph, Mo.

### JERSEY CATTLE AND CHESTER WHITE HOGS

Two registered Jersey bulls ready for service. Richly bred. DORNWOOD FARM, Route 1, Topeka, Kan.

### SMITH'S JERSEYS

BLUE BOY BARON 99918  
Five years old, solid light fawn, blue ribbon winner. Must change. Keeping his heifers. His sire, half brother to Noble of Oaklands, sold for \$15,000. His first five dams on his dam's side made 102 lbs. butter in seven days. Also four of his sons, serviceable age, and a few females. Will sell very cheap. S. S. SMITH, CLAY CENTER, KANSAS.

### CHOICE JERSEY BULL

Yearling Jersey bull for sale, from dam that gave 1,260 pounds of 5 per cent milk in thirty days. Also a bred heifer and a five-months-old heifer calf. D. A. KRAMER, WASHINGTON, KANSAS

### LINSCOTT JERSEYS.

First Register of Merit herd in Kansas—Established 1878. Oakland Sultan, first Register of Merit sire in Kansas, is dead. Last chance to get one of his daughters. \$100. E. J. LINSKOTT - HOLTON, KANSAS.

### CHAMPION BLOOD

Young bulls by Crestles's Interested Owl 114512, whose sister has broken the Jersey milk record, giving 19,744 pounds of milk. These bulls are out of very good cows. Write or call on R. A. GILLILAND, Mayetta, Kan.

### REGISTERED JERSEY HEIFERS.

They are bargains and will soon go at prices asked; 2 to 5 months old. Write today. Parkdale Farm, Vandalia, Mo.

**JERSEY BULL CALVES**—Two fine bred ones, 6 months and 1 month of age. Priced to sell. For description and price write A. W. Nickols, 603 North D St., Indianola, Ia.

## GUERNSEY CATTLE

**A GUERNSEY BULL** is a sure way to increase your profits. Grade up your herd by using a pure bred Guernsey Bull and you will be surprised at Results. Send for free literature.

Guernsey Cattle Club, Box K, Peterboro, N.H.

## 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. E. E. FRIZELL, Frizell, Pawnee Co., Kan.

### OHIO IMPROVED CHESTERS

### Murray's O. I. C. Chesters

A few choice boars. Forty choice gilts bred for March farrow; thirty for April farrow. All bred to silver cup winner. They are priced low. CHAS. H. MURRAY, FRIEND, NEBRASKA

### CEDARDALE CHESTER WHITES

Choice gilts bred for March and April farrow. Bred to W. P. Sweepstakes by Wildwood Prince for March and April farrow. Some show prospects. Priced right. J. S. KENNEDY - BLOCKTON, IOWA

### O. I. C. HOGS

Guaranteed cholera immune. Long, smooth, good bone. Boars ready for service, gilts bred or open, \$17.50 to \$25. Pedigrees furnished. CEDAR VIEW STOCK FARM, Bolivar, Mo. Dr. C. E. Ackerman, Sec'y.

## TAMWORTH HOGS.

### TAMWORTH PIGS

Of summer birth, from massive, natural immune parents. Sent in pairs not akin. Write Q. I. SIMPSON, Palmer, Illinois.

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W. J. Cody, Manager, Stock Advertising.  
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### CLAIM SALE DATES.

**Percherons.**  
Feb. 24—Breeders' Sale, Hutchinson, Kan.  
C. B. Warkentin, Newton, Kan., Manager.

**Jacks and Jennets.**  
March 6, 1916—W. J. Finley, Higginsville, Mo.  
March 7 and 8—L. M. Monsees & Son, Smith-ton, Mo.

**Shorthorns.**  
April 5 and 6, 1916—Central Shorthorn Sale, Independence, Mo.

**Hereford Cattle.**  
March 3—Northwest Missouri Hereford Breeders' Association. Sale at South St. Joseph, Mo. Jesse Engle, Sheridan, Mo., sales Mgr. H. D. Cornish, Osborne, Mo., Secretary.  
March 6—Kansas Hereford Breeders, Manhattan, Kan. Prof. W. A. Cochel, Mgr.

**Holsteins.**  
Feb. 2—Dr. R. H. Graham, Clay Center, Kan.  
Feb. 9—A. W. Hurst & Sons, Bolckow, Mo.  
Feb. 23—Nebraska Holstein Breeders' Sale Co., sale at South Omaha. E. M. Little, Clarks, Neb., Manager.

**Combination Breeders' Sale.**  
Feb. 15 to 18—S. S. Klrk, Manager, Wichita, Kan.

**Durocs.**  
Feb. 8—J. A. Porterfield, Jamesport, Mo.  
Feb. 15—Kansas State Agricultural College, Manhattan, Kan.  
Feb. 16—Thompson Bros., Garrison, Kan.

**Poland Chinas.**  
Feb. 2—Will G. Lockridge, Fayette, Mo.  
Feb. 4, 1916—J. A. Godman, Devon, Kan.  
Feb. 5—Fred B. Caldwell, Howard, Kan.  
Feb. 8—L. V. O'Keefe, Stillwell, Kan.  
Feb. 9—H. L. Faulkner, Jamesport, Mo. (Spotted Poland Chinas.)  
Feb. 15, 1916—Herman Gronniger & Sons, Bendena, Kan.  
Feb. 15—Kansas State Agricultural College, Manhattan, Kan.  
Feb. 16—Herman Gronniger & Sons, Bendena, Kan.  
Feb. 17—H. C. Graner, Lancaster, Kan.  
Feb. 18—H. B. Walter, Effingham, Kan.  
Feb. 19—Belcher and Bennett Bros., Lee's Summit, Mo.  
Feb. 19—Oliver & Sons, Danville, Kan.  
Feb. 23—U. S. Byrne Saxton, Mo. Sale at St. Joseph Stock Yards.  
Feb. 23—F. E. Moore & Son, Gardner, Kan.  
Feb. 26—A. J. Erhart & Sons, Ness City, Kan.  
March 1—Clarence Dean, Weston Mo. Sale at Dearborn, Mo.

**O. I. C. and Chester Whites.**  
Feb. 2—J. H. Harvey and F. B. Goodspeed & Son, Maryville, Mo.

P. E. Moss, of Bronson, Kan., has claimed February 15 as the date of his Jack and jennet sale. Fifteen jacks and jennets will be catalogued for this sale. Three of the jacks and eight jennets are of breeding age.

Oliver & Doran, of Dornwood Farm, Topeka, report their herds of Jersey cattle and Chester White hogs doing well. The Dornwood herds of Jerseys and Chester Whites are among the good herds of the respective breeds. A feature of their Jersey herd at this time is the richly bred lot of young stock, including some outstanding young bulls.

H. D. Burger, of Seneca, Kan., and owner of Nemaha Valley Stock Farm, announces a public sale of high grade Holstein cows, heifers and registered bulls. The sale will be held at the farm near Seneca, February 11. The offering will consist of twenty-five cows and heifers, one registered herd bull, three registered yearling bulls and three young registered bulls almost ready for service. This is a herd of proven producers. The foundation herd of ten cows averaged

## Have Sold Farm. Closing Out Entire Herd of Registered Shetland Ponies

Sale in Pavilion At Ottawa, Kansas, February 10

At 1 o'clock, Prompt.  
**FORTY-SIX HEAD**

(30 mares, 14 stallions and 2 geldings). Ponies from 36 to 42 inches in height, spotted and solid colors. Write for catalog.

**N. E. STUCKER**

Ottawa, Kansas

Rule Bros., Auctioneers.

E. A. Hanes, Cashier First National Bank, Clerk.



## PUBLIC SALE OF JACKS AND JENNETS TO BE HELD AT CAMERON, MO., TUESDAY, FEB. 22

On the above date we will sell forty head of Mammoth Jacks and Jennets, consisting of thirty tried jacks, some jennets in foal and some good young stock of both sexes that will double in one year.

The jacks and jennets that are consigned in this sale represent as good blood as can be procured in Missouri and Kentucky. They represent the blood of Dr. McCord, Limestone Mammoth and other noted sires, and will be sold under positive guarantee to be as represented. This sale affords an unusual opportunity to buy the BEST. The catalog will describe every animal listed and will be mailed to those who write for it. They will be ready to mail, February 5.

**JAS. E. PARK, - - - - - CAMERON, MISSOURI**

**AUCTIONEERS**  
COL. P. M. GROSS, Macon, Mo. COL. D. D. DEEM, Gallatin, Mo. COL. THOS. E. DEEM, Cameron, Mo.

490 pounds butter in one year with ordinary farm care. Mr. Burger has established a herd of pure-bred Holsteins and is closing out his high grades in order to make room for his registered herd.

W. R. Huston, of Americus, Kan., owner of one of the good Duroc herds, reports that he has bred a large number of choice (red) sows, also a fine lot of gilts, to his great boars, Country Gentleman and Gold Medal, for spring farrow. These sows are by Country Gentleman, Gold Medal and Long Wonder 2d.

H. H. Holmes, of Great Bend, Barton County, Kansas, is one farmer out in the wheat belt that is making a success with a herd of registered Shorthorn cattle. He lives on his 560-acre river bottom farm, two miles west of Great Bend, and in connection with his wheat farming and alfalfa, he finds both pleasure and profit in raising Shorthorn cattle. The herd is headed by the great show bull, Prince Valentine 4th. This bull was undefeated as a calf, winning first at all the leading state fairs and first as a two-year-old bull, then later as an aged bull he won first at the Kansas State Fair and the American Royal. For two years he was used in the Tomson Bros. herd and left as many good calves in this herd as any bull used the same length of time, and he is doing good service at the head of the Riverside herd of Shorthorns. The herd cows consist of Orange Blossom, Queen of Beauty, and imported Winfred tribes of Scotch cattle, represented with many other families of useful breeding cattle.

The Shorthorn sale held by Richard Roenigk at Clay Center, Kan., January 20, was attended by Shorthorn breeders from a number of states. The females, practically all heifers, averaged \$100 per head. Practically the entire offering was taken by Kansas farmers and breeders. It was one of the most useful offerings sold this season. Mr. Roenigk is one of the foremost breeders in this state and he has reserved twenty head of outstanding heifers and expects to build up a herd that will be second to none in the state.

J. E. Park's announcement that he will hold a public sale of jacks and jennets at Cameron, Mo., February 22, will interest all breeders wanting high class jacks. Mr. Park is one of Missouri's oldest jack breeders and breeding stock from his herd is making good in the leading breeding barns and herds in a number of states. Forty head of mammoth jacks and jennets will be catalogued for this sale. There will be

thirty tried jacks in the offering. Some of the jennets will be in foal, and there will also be some very fine young stock. The offering will represent the blood of Dr. McCord, Limestone Mammoth, and other noted sires.

L. F. Cory & Son, of Belleville, Kan., owners of Corydale Farm Holstein Herd, report their herd doing well. They have one of the heavy producing herds headed by Jewel Paul Butter Boy 94245, one of the best Holstein sires in this state. They have a choice lot of young stock in the herd at this time, including some outstanding young bulls.

A. W. Nickols, of Indianola, Iowa, is one of the successful Jersey breeders of that state and owns one of the heavy producing herds. The blood lines of his herd are of the best and the young stock, including a number of choice young bulls, is a fine lot.

Ed Boen, of Lawson, Mo., owner of Prairie View Stock Farm and one of Missouri's finest herds of mammoth jacks and jennets, writes that his herd is doing fine. Mr. Boen is one of Missouri's pioneer breeders and for years his herd has been famous for big high quality jacks, and Lawson is noted as the great jack center of Missouri. At this time the herd consists of fifty head of mammoth jacks and jennets from fifteen to sixteen hands high and from two to six years old. All of them were raised on Prairie View Farm.

J. S. Kennedy of Blockton, Iowa, owner of the famous Cedardale herd of Chester White hogs, writes that his herd is doing fine and that the demand for high class boars has been good. Mr. Kennedy has sold out his entire offering of young boars at very satisfactory prices. He has bred a very fine lot of big, stretchy gilts to the great boar, W. P. Sweepstakes 35067, by Wildwood Prince 28531, for March and April farrow. Wildwood Prince weighed 1,010 pounds at three years old. He was first and senior champion and grand champion at the Iowa State Fair, 1914. The dam of W. P. Sweepstakes was Sweepstakes Perhaps 60024, sired by Sweepstakes 28006, first and senior champion at the Iowa State Fair, 1912. He is also breeding a number to the great boar, Amos, bred by Amos Turner, Wilber, Neb. His dam was next to the highest priced sow in Mr. Turner's bred sow sale. Mr. Kennedy has developed the big, easy feeding type of Chester Whites that are proving very popular with the breeders and farmers. They mature early to a good weight with the minimum amount of feed.

**SHORTHORN CATTLE.****CEDAR LAWN SHORTHORNS**

For Sale—A number of choice bull calves from 8 to 16 months old, by Secret's Sultan 363833 by Missie's Sultan by Glenbrook Sultan by Whitehall Sultan and out of West-lawn Secret 2d, weight 2,200 in breeding condition. Description guaranteed.

S. B. AMCOATS - CLAY CENTER, KAN.

**Tenneholm Shorthorns**

Collynie Hampton 353998 in Service.

FOR SALE NOW: Eight good bulls from 7 to 17 months old; four Scotch, four Scotch topped Bates. Some of them high-class herd headers. A few bred cows and heifers for sale also. Our prices are not high. Farm one mile from town.

E. S. MYERS - CHANUTE, KANSAS

**PEARL HERD SHORTHORNS**

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

C. W. TAYLOR, Abilene, Kans.

**ALFALFA LEAF SHORTHORNS**

Young bulls for sale, from 8 to 14 months old. Also some females, bred or open, with breeding and quality.

John Regier, Whitewater, Butler Co., Kan.

**HILL'S SHORTHORNS**

Two choice Shorthorn bulls. One red, ten months old, sired by Bettie's Albion 398451. One white, eight months old. Extra fine and 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

**Cedar Heights' Shorthorns**

Eight head of pure Scotch and Scotch-topped bulls for sale, ten to sixteen months old. Reds and roans. Phone 59-N-1.

HARRY T. FORBES, Route 8, Topeka, Kan.

**Shorthorns**

20 bulls and heifers sired by Duchess Searchlight 348529, a 2,500-pound bull, and from cows weighing 1,400 to 1,600 pounds. Good milkers. Come or write.

A. M. MARKLEY & SON, MOUND CITY, KANSAS

**RIVERSIDE SHORTHORNS**

For Sale—Fifteen pure Scotch and Scotch-topped cows and heifers. Five pure Scotch and Scotch topped young bulls. Prices reasonable. Come and see them.

H. H. HOLMES - GREAT BEND, KANSAS

**HEREFORD CATTLE.****STAR BREEDING FARM**

FOR SALE—Herefords and Durocs: 65 yearling and two-year-old bulls by Tophon 4th, Hessoid, Anxiety, March On and other good sires. 25 females, some have calves at foot and bred again. 10 head heifer calves. 30 head of registered Duroc gilts sired by a son of Ohio Chief and son of Buddy K 4th, out of sows by grand champions. Come and see me.

SAM DRYBREAD - ELK CITY, KANSAS

**HEREFORD CATTLE SALE**

Perry Bros. and J. O. Southard will sell 200 head of registered Hereford cattle on February 5, 1916, in Council Grove, Kansas. Address Perry Bros., Alta Vista, Kansas, or J. O. Southard, Comiskey, Kan., for catalogs.

When writing advertisers, please mention KANSAS FARMER.

**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.

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Phone 8454. Route 6, Lawrence, Kan.

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**DORSET-HORN SHEEP.**

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**POLAND CHINA HOGS.**

Wm. M. Dixon, New Florence, Mo.

**HORSES AND MULES.**

**SHIRE STALLIONS**—Registered, well bred, first class stock.  
JAMES AULD, Wakefield, Clay Co., Kansas

**FARM AND HERD.**

Bruce Saunders, of Holton, Kan., owner of Banner Stock Farm, is one of the progressive workers in the interests of improved stock. His specialty is "pure-bred" Percheron horses and registered mammoth jacks. His Percheron herd is headed by the great stallion, Incleus, a 2,240-pound horse and grand champion at the American Royal, 1911. The herd jack in service is Good Nature, a very fine individual that sold for \$1,600 as a two-year-old. M. G. Saunders, of Lexington, Ky., and Bruce Saunders, of Holton, recently shipped to Banner Stock Farm a carload of very fine registered mammoth jacks. They are from two to six years old, fifteen to sixteen hands high, and are a very choice lot.

Catalogs are out for the annual bred sow sale to be held by Herman Groninger & Sons, Bendena, Kan., February 15. This firm owns one of the noted herds of big-type Poles now in existence and has developed a big, easy feeding type of Poland China hogs that is known throughout the corn belt as the "Groninger type." They are very popular with farmers and feeders, on account of size, early maturing and profitable feeding qualities. They have catalogued fifty head for this sale, sired by such sires as Tecumseh Ex, Victor's Expansion, Rexall, Exalter's Rival, Scott's Big Boy, Mabel's Wonder, Orange Price, and other noted Poland China sires. They are bred to Futurity Rexa, Big Bob 2d, Shamrock and Melborn Jumbo.

L. V. O'Keefe and George Wedd & Son have announced a joint sale of Poland China bred sows to be held at the O'Keefe farm near Stilwell, Kan., February 8. They have catalogued forty-six head of tried sows, fall yearlings and spring gilts for this sale. They are sired by Big Logan Ex, Missouri Metal, Model Price, Wedd's Long King, Wedd's Expansion, Big Orange, and A King.

G. W. Overley, of Sunny Slope Stock Farm, McCune, Kan., has announced a sale of jacks and jennets to be held February 22. Mr. McCune is one of the successful breeders of high class jacks in the state and will catalog twenty-six head of jacks and jennets for this sale. The offering will include twelve jacks, all of them raised on Sunny Slope Farm. They are all blacks with white points and are the type of jacks that are profitable.

The Animal Husbandry Department of the Kansas Agricultural College, Manhattan, announces its third annual bred sow sale to be held February 15. This year Poland China and Duroc Jersey sows will be catalogued. The offering will be a choice lot and will be bred to the good sires at the head of the college herds. They will be a very useful lot of sows. The offering in Poles will be by Big Logan Ex, Big Orphan Again, and other good sires. They are bred to Big Jumbo Hadley and King Bob by Big Bob Wonder. The Durocs by Model Col. K, Kansas Volunteer, Quartermaster 2d, and others as good. All are bred to Quartermaster 2d and Select Top by Select Chief.

On Monday, January 17, 1916, Lee Bros., of the Blue Ribbon Stock Farm, Harveyville, Kan., held their third annual Percheron horse sale at the college at Manhattan. Thirty mares and fillies sold for an average of \$316, a number of them being two-year-old fillies. The top of the mare sale was \$640 paid for No. 1, which went to the Missouri University at Columbia. The stallions were all yearlings, two-year-olds and coming three, and made an average of \$300. The keen demand seemed to be for older mares showing safe in foal. Considering the extreme cold weather, the sale was considered a very good one, and the returns were very satisfactory to the Lee Brothers.

J. E. Park, of Cameron, Mo., has announced a public sale of jacks and jennets to be held at Cameron on February 22. Mr. Park is one of Missouri's pioneer jack breeders and has been in the business for over thirty years. Jacks from his herd are making good in the best herds and breeding barns in a number of states. For this sale he will catalog forty head of high-class jacks and jennets. His offering will include thirty head of guaranteed tried jacks.

Catalogs are out for H. B. Walter's great Poland China bred sow sale to be held February 18. Mr. Walter is one of the most successful Poland China breeders in the corn belt. This year he has catalogued a great offering for his bred sow sale. It will consist of thirty-four head of tried sows, fall yearlings and choice spring gilts. Some of the spring gilts will weigh above 360 pounds and there will be fall yearlings weighing 500 pounds. A number of outstanding tried sows have also been catalogued. The sows and gilts that will go in this sale are daughters of Long Jumbo 2d, Moore's Halvor, Walter's Expansive, King John, and other noted sires. They will be bred to Big Bob Wonder, the sensational big-type boar at the head of Mr. Walter's herd.

F. S. Kirk, sales manager, announces a big combination sale of pure-bred stock of all breeds to be held at Wichita, Kan., February 14, 15, 16, 17 and 18. The best herds of horses, jacks and jennets, beef and dairy cattle, and hogs in the country will be represented in this sale, and the offering will include some show herds.

N. S. Amspacher, of Jamestown, Kan., one of the progressive Holstein breeders in Kansas, writes that his herd is doing well. Mr. Amspacher owns one of the good pure-bred Holstein herds and has a fine lot of young stock at this time.

H. C. Graner, of Lancaster, Kan., announces February 17 as the date of his annual bred sow sale. This announcement will be of interest to Poland China breeders throughout the corn belt. Mr. Graner owns one of the noted big-type herds and has catalogued eighty head of bred sows for this sale. They are by the great sires, Long King's Best, A Wonder's Equal and Moore's Halvor, and are bred to Big Spot by Big Orange, Long King's Best, Mabel's Wonder and Bob's Big Boy by Big Bob Wonder. Mr. Graner is selling his entire herd, and nothing will be reserved. During the many years that he has been breeding Poland Chinas, he has made a specialty of developing hogs along lines that insured the right type for profitable breeding stock and his type is the kind that is profitable for the farmer and feeder, and it is to be regretted that he has decided to disperse his valuable herd.

C. W. Taylor, of Abilene, Kan., owner of the famous Pearl Shorthorn herd, reports the herd doing well. Mr. Taylor recently purchased Orange Lad 420052 to head his herd. This bull is a fine individual sired by Victor Orange 190218, out of Lovely Maid by Lord Lovel, tracing to Imported Maid of March by Earl of March 58600. Mr. Taylor reports a heavy demand for breeding stock and sales very satisfactory.

**HORSES AND MULES.****58 Head Registered Stallions and Mares 58**

Percherons, Belgians and French Drafts, from Yearlings to Seven Years Old.

I have rented my farm and am quitting farming. Must sell all my horses by March 1. Nothing reserved. All priced reasonably—the first buyer to come will get a bargain. I mean business and must sell my entire herd. Come and see me.

J. M. NOLAN - - - - - PAOLA, KANSAS

**ROBISON'S PERCHERONS**

Forty young stallions from two to six years old. A few young mares for sale.

J. C. ROBISON, Towanda, Kans.

**LAMER'S PERCHERONS**

Have just received a new shipment. Also have a barn full of my own raising. A choice lot to select from.

WRITE, WIRE OR PHONE.

C. W. LAMER, SALINA, KANSAS

OFFICE, LAMER HOTEL.

**REGISTERED PERCHERON STUDS**

We have them, BIG FELLOWS, 1, 2, 3 and 4 years old. Real drafters, BIG BONE, lots of quality and action. Grown right, will go out and make good both as to sires and foal getters. You lose money if you don't look at BISHOP BROS.' STUDS before buying twenty miles east of Wichita, on Mo. Pacific Ry.

BISHOP BROS., BOX E, TOWANDA, KANSAS

**HORSES AND JACKS**

FOR SALE—Span of 6-year-old mares, ton, imported; span of 2 and 3-year-olds. All in foal and showing good to imported horse, Kossuth. Three spans of yearlings, coming twos. All of the above as good as ever grown. Twenty head of two-year-old jacks, the big Missouri kind; ten head of jennets, all bred. This stuff, for the purpose of making room, I will sell at rates to suit purchaser. Can show sire and dams of all stuff. Cash or time.

OAKLAND STOCK FARM, Box 207, CHILLICOTHE, MO.

**MAMMOTH JACKS, JENNETS and PERCHERONS**

Jacks 15 to 16 $\frac{1}{2}$  hands standard, two to five years, very best bone and quality. Stallions, ton weight and over, with finish.

AL E. SMITH, PROPRIETOR - LAWRENCE, KANSAS

**REGISTERED JACKS and PERCHERONS**

A few tried imported black Percheron ton stallions; Brilliant blood, good enough for herd headers. Twelve big black registered jacks, two to five years old, 14 $\frac{1}{2}$  to 16 hands high, well broke and quick performers. Good herd of registered jennets headed by large Spanish Jack.

J. P. & M. H. MALONE, CHASE, KANSAS  
Rice County.

**HIGH CLASS JACKS**

We offer 25 head to select from. Herd headed by Mo. Chief's Boy 6815. One imported gray, Percheron stallion, first prize at Kansas State Fair. Write or phone us.

LOUIS MILLS & SON, Alden, Kan.

FOR SALE—Two extra good registered Percheron stallions. Two choice registered mares, extra large, in foal to registered stallion.

H. A. RITTER

Kiowa - - Kansas

**JACKS AND JENNETS**

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

PHIL WALKER, Moline, Elk County, Kansas.

**Jacks for Sale**

I have three good young jacks for sale and worth the money. Also a few very fine jennets.

JOHN A. EDWARDS  
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Registered Percheron Stallions—Nine-ton ton and 2,200-pound 4 and 5-year-olds. 34 coming 3's. 17 coming 2's. Grandsons International champion Pink. 23 registered mares for sale. Just above Kansas City. Fred Chandler Percheron Farm, Route 7, Charlton, Iowa.

**JACKS FOR SALE.**

Seven head of big mammoth jacks, from two to seven years old. Would take some White-Face heifers in exchange. Jacks guaranteed as represented.

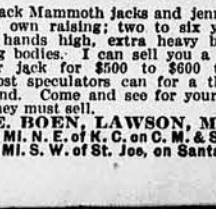
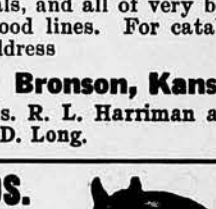
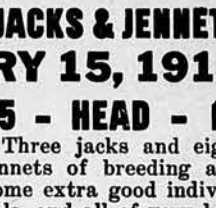
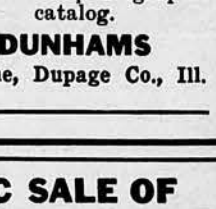
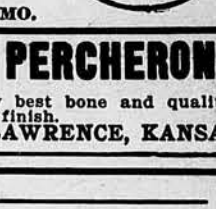
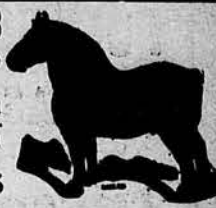
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**ONE HUNDRED**

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

A. LATIMER WILSON, CRESTON, IOWA.

**THIRTY HEAD MAMMOTH JACKS**  
And Jennets for sale. The big kind. Priced to sell.  
J. D. HOLMAN - CURRYVILLE, MO.

**HORSES AND MULES.****DUNHAMS' PERCHERONS**

For Fifty Years the Best.

Send for fine photographic catalog.

DUNHAMS

Wayne, Dupage Co., Ill.

**PUBLIC SALE OF REGISTERED JACKS & JENNETS FEBRUARY 15, 1916**

15 - HEAD - 15

Three jacks and eight jennets of breeding age. Some extra good individuals, and all of very best blood lines. For catalog address

P. E. MOSS, Bronson, Kansas  
Auctioneers—Cols. R. L. Harriman and L. D. Long.

**HARRIS BROS.**

90 PERCHERONS 90

Sixty Mares and Fillies. Thirty Stallions, from weanlings to five years old. At live and let live prices.

Route 6, GREAT BEND, KANSAS.

**THE SAUNDERS JACK CO.**

M. 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

**PRAIRIE VIEW STOCK FARM**

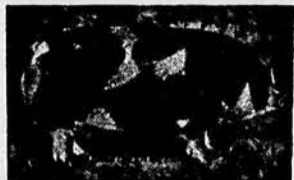
Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for \$500 to \$600 than most speculators can for a thousand. Come and see for yourself. They must sell.

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

THIRD ANNUAL SALE  
**POLAND CHINAS and DUROC JERSEYS**  
**KANSAS STATE AGRICULTURAL COLLEGE**  
 MANHATTAN, KANSAS  
**TUESDAY, FEBRUARY 15, 1916**

Poland Chinas - - - 10:30 a. m.  
 Duroc Jerseys - - - 1:00 p. m.

For catalog address  
**ANIMAL HUSBANDRY DEPARTMENT**



**Faulkner's Famous Spotted Polands**

We are not the originator, but the preserver of the **OLD ORIGINAL BIG-BONED SPOTTED POLANDS**. Now booking orders for spring pigs to be shipped when weaned, pairs or trios, not akin.

Arrange to attend our **ANNUAL FEBRUARY 9 BROOD SOW SALE**. For information and catalog address **H. L. FAULKNER, BOX K, JAMESPORT, MISSOURI**

**POLAND CHINAS.**

**Palmer's Poland Chinas**

Herd headed by Sir Dudley, first in senior pig class, junior and reserve grand champion Kansas State Fair, Hutchinson. Pigs, either sex, by this boar; also sows and gilts bred to him. For prices and description write **CHAS. B. PALMER, Route 5, Marion, Kan.**

**PERFECTION SPOTTED POLANDS**

Special prices on summer boars—the old original spotted kind. Booking orders for fall pigs and gilts bred for spring farrow. Get our prices and free circular before buying elsewhere. **The Ennis Stock Farm, Horine Station, Mo. (Just South of St. Louis.)**

**Henry's Big-Type Polands**

March gilts, sired by Big Bob Wonder, Big Bone Jr., and Grand Orange. Bred or open. Also fall pigs, not related. Write me. **JOHN D. HENRY - LECOMPTON, KAN.**

**ENOS IMMUNED POLANDS.**

Fall and spring boars sired by the noted herd boars, Orphan Chief and Mastodon King. Will sell a choice lot of my herd sows and gilts bred for early spring farrow. One hundred head to pick from. Everything guaranteed immune. Write or phone. **A. R. ENOS - RAMONA, KANSAS**

**POLAND CHINA BOARS AND GILTS**

A few serviceable boars and bred gilts for sale. Send for my bred sow sale catalog. Sale will be held March 1 at Dearborn, Mo., on electric line out of St. Joseph. Write **CLARENCE DEAN, R. D., WESTON, MO.**

**ARKELL'S POLANDS.**

Choice Fall Yearlings and Spring Gilts. Yearlings by Longfellow Again, bred to Chief Big Bone. Spring gilts by Chief Big Bone, bred to Longfellow Again. Priced for quick sale. **JAMES ARKELL, R. 4, Junction City, Kan.**

**SPOTTED POLAND CHINAS**

June and July farrow. Pairs or trios. Not akin. Recorded pedigree with each hog. **GEO. HENRY, JAMESTOWN, IND.**

**LANGFORD'S SPOTTED POLANDS.**

Choice fall boars. Also boars for service. Must sell. **T. T. Langford & Sons, Jamesport, Mo.**

**OLD ORIGINAL SPOTTED POLANDS.**

Spring boars, fall pigs, bred sows. Bargains. **A. S. Alexander, Route 2, Burlington, Kan.**

**POLLED DURHAM CATTLE.**

**The Profitable Breed**

For Sale—Double Standard Polled Durham Cattle. Write for description, breeding and prices. **C. M. ALBRIGHT, OVERBROOK, KANSAS**

**SHROPSHIRE SHEEP**

**SHROPSHIRE EWES**

Bred to the very best bucks obtainable, for sale in lots to suit purchaser. All stock recorded.

**L. M. HARTLEY**

**FINE RIDGE FARM - SALEM, IOWA**

**BRED EWES.**

Registered Shropshires to lamb March and April. Bred to son of imported Ludlow King, sire of state fair champions. Also rams. Eighty miles north St. Joseph, Mo. **C. W. CHANDLER, Kellerton, Ia.**

**MISCELLANEOUS.**

**YOU CAN BUY THEM HERE**

Registered Percheron Stallions and Mares. Registered Mammoth Jacks and Jennets. Registered Holstein Bulls, Cows and Heifers. **M. G. BIGHAM & SONS, OZAWKIE, KAN.**

**AYRSHIRE CATTLE.**

**CHOICE AYRSHIRE BULL CALVES**

One born September 7, 1915, nearly white; one born September 30, 1915, grandson of world's champion, two years old. Priced worth the money. **H. H. HOFFMAN, Route 6, Abilene, Kansas.**

**HAMPSHIRE HOGS**

**ATTEBERRY'S HAMPSHIRE**

Choice breeding. Bred sows and gilts. Outstanding boars. Priced to sell quick.

**ATEBERRY & SON - LANCASTER, MO.**

**IMMUNE HAMPSHIRE**

Choice gilts, bred or open, with size, finish and prolific qualities. **Louis J. Paulsen, Cordova, Neb.**

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**TOPEKA Engraving Company**

**ARTISTS AND ENGRAVERS**

**SIX TWENTY FIVE JACKSON STREET Topeka, Kans.**

**FARM AND HERD.**

Smith & Hughes, of Topeka, owners of one of the very high class herds of Holstein cattle in this state, report their herd doing well. They are breeding along lines that will insure heavy producers and have a number of advanced registry cows. They have a choice lot of young stock, including a number of young bulls that are herd header prospects.

The Northwest Missouri Hereford Breeders' Association has changed the date of their Hereford sale to be held at St. Joseph, Mo. The sale will be held March 3 instead of March 4, as at first announced.

James Auld, of Wakefield, Kan., is one of the successful breeders of pure-bred Shire horses and owns one of the best herds of that breed in this state. He has contributed largely to the cause of better horses on Kansas farms, and breeding stock from his herd are making good in some of the best breeding barns in the country.

McKay Bros., of Waterloo, Iowa, owners of the famous Genesee Herd of Holsteins, report their herd doing well. This firm is preparing to stock a large ranch at Hilton Station, Colo., with a large herd of pure-bred Holsteins. A feature of their herd at this time is the splendid lot of young stock, including a choice lot of young bulls sired by such bulls as Aggie Cornucopia, Johanna Lad 7th, average record of dam and sire's dam 32.57 pounds; King Mead DeKol, whose full sister made yearly butter records of 906.27 pounds at three years old and 1,011.71 pounds at four years, and Sir Payne Hengerveld Ormsby, whose dam has a record of 24.42 pounds at three years, her dam a 26.34, three-fourths sister to the sire of the present world's champion, Duchess Skylark Ormsby, his sire being a full sister to Grace Payne 2d Homestead, 35.55 pounds.

O. W. Long, of Craig, Mo., announces February 17 as the date for a bred sow sale. Mr. Long has both the large Poland Chinas and the Duroc Jerseys, and is making a great success with the two herds. Mr. Long will sell twenty-five Poland Chinas sows and gilts sired by Jumbo, A Wonder, Hadley, and King Alexander, and bred to Rude's Big Joe 2d by Rude's Big Joe. He will also sell twenty-five Duroc sows and gilts sired by Critic, King Gene by King Of All, and bred to Crimson Critic, a Crimson Wonder bred boar. The sale will be held on the farm near Craig, Mo., on the main line of the Burlington north of St. Joseph, Mo.

George C. Tredick, of Tredico Farm, Kingman, Kan., reports Tredico Holstein herd as doing well and that there is a hearty demand for good Holstein breeding stock at very satisfactory prices. Mr. Tredick is breeding for production. His herd bull, Iowa De Cola Walker, is backed by a long line of splendid records. He has a splendid lot of daughters of Sir Johanna Payne, King Pieter Lyons, and Spring Brook Pearl, in his herd, and this combination of blood lines means profit producers.

**HOLSTEIN CATTLE.**

CLYDE GIROD—At the Farm.

**HOLSTEIN FRESIAN FARM**

M. M. MERCEDES PIETERTJE HOMESTEAD 156587 AT HEAD OF HERD. Pure-bred and high-grade Holsteins, all ages. Large selection, 225 head to choose from. One hundred fifty springing cows and heifers, all the right type, in calf to pure-bred bulls strong in the blood of the best milking strains, to freshen soon, as well as fresh cows on hand. Our pure-bred heifers are choice, some with A. R. O. records under three years of age. Fifteen pure-bred bulls, ages 6 to 24 months, all out of A. R. O. dams and from record sires. Bring your dairy expert—the better informed the easier to please. Write or wire your wants.

**GIROD & ROBISON, Towanda, Kansas**

**260 - HOLSTEIN COWS AND HEIFERS - 260**

If you want Holstein cows, springers or bred heifers, see my herd. I have them. They are very large, good markings, out of the best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. Want to reduce my herd and will make bargain prices for thirty days.

**J. C. ROBISON - TOWANDA, KANSAS**

**TORREY'S HOLSTEIN HEIFERS**

High-grade Holstein heifers in single lots or car loads. Prices reasonable. Write, wire or phone. **O. E. TORREY - TOWANDA, KANSAS**

**HOME FARM HOLSTEINS**

**OFFER HEIFER CALVES**

Five months up to 15 months; granddaughters of De Kol Burke, Fobes Tritonia, Mutual De Kol and Walker Korn-dyke Segis. Official record and untested dams. Prices, \$95 to \$325.

**W. B. BARNEY & SONS, Chapin, Iowa.**

**Regier's Holsteins**

FOR SALE—Holstein-Friesian A. R. O. bulls. One A. R. O. 15.78 pounds butter cow, gave 12,386 pounds milk in 292 days, will be fresh December. Price, \$275.

**G. Regier & Sons**

**WHITEWATER - KANSAS**

**IN MISSOURI**

Eight bulls, 2 to 3 months, \$100 to \$175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

**S. W. COOKE & SON, MAYSVILLE, MO.**

**SUNFLOWER HERD**

Prince Artis Pontiac Abbecker No. 136382 Heads Sunflower Herd. Only 30-pound bull in Kansas. Buy where the best breeding, best producers come from.

**F. J. SEARLE, OSKALOOSA, KANSAS.**

(Several bulls ready for service.)

**BUTTER BRED HOLSTEINS**

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

**J. P. MAST, SCRANTON, KAN.**

**REGISTERED HOLSTEINS**

For Sale—Choice young bulls, also a few females. Have bred Holsteins 35 years on the same farm. Come and see our herd.

**M. E. MOORE & CO., CAMERON, MO.**

**Bonnie Brae Holsteins**

Ninety head of high-grade heifers and young cows. Some fresh now. Many heavy springers. Heifer calves. Registered bulls from 7 to 14 months of age.

**IRA ROMIG, STATION B, TOPEKA, KAN.**

**Golden Belt Holstein Herd**

Canary Butter Boy King No. 70508

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.

**W. E. BENTLEY, MANHATTAN, KANSAS**

**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.

**L. F. CORY & SON, Belleville, Kansas.**

**FOR QUICK SALE**

Fifty head of highly-bred registered Holstein-Friesian cows and heifers; good ages and good producers. Several bulls from calves up to yearlings. Ready for service. **HIGGINBOTHAM BROS., Rossville, Kansas**

We are breeding Iowa De Cola Walker on daughters of Sir Johanna Payne, King Pieter Lyons and Spring Brook Pearl. What a mistake we must be making!!!

**TREDICO FARM**

Route 44 Kingman, Kansas

**CHOICE HOLSTEIN BULLS**

Four registered bulls, out of A. R. O. cows. Two ready for service. Best breeding. Choice individuals.

**BEN SCHNEIDER, NORTONVILLE, KAN.**

**EWING'S HOLSTEINS**

Watch this space in future issues for something good in Holsteins.

**T. M. EWING, INDEPENDENCE, KANSAS**

**BRAEBURN HOLSTEINS**

Product of twenty years breeding. Write me for a good bull calf. Two ready to use.

**H. B. COWLES, 608 Kansas Ave., Topeka, Kan.**

**Holsteins for Sale**

High bred registered bulls ready for service

**N. S. AMSPACKER, JAMESTOWN, KANS.**

**FINE HOLSTEIN CALVES**

From heavy milkers. \$20 each. Registered yearling bull, \$85. **Edgewood Farm, R. 3, Whitewater, Wis.**

**HOLSTEIN BULLS, "REGISTERED"**

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

**HOLSTEIN CATTLE.**

F. W. ROBISON—At Towanda State Bank.

**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**

**RED POLLED CATTLE.**

**RED POLLED BULLS**

TWENTY yearling bulls, big rugged fellows, sired by ton sires; all registered and priced reasonably. Will sell a few females. **E. E. FRIZELL, Frizell, Pawnee Co., Kan.**

**Coburn Herd Red Polled Cattle**

AND PERCHERON HORSES.

A few choice bulls. Eight extra good two-year-old stallions for sale at reasonable prices. **MAHLON GROENMILLER, Pomona, Kan.**

**RED POLLED CATTLE**

FOR SALE—1915 bull calves by Rose's Grand Champion 17998, a 2,400-pound bull; also a few good cows and heifers.

**AULD BROTHERS, FRANKFORT, KAN.**

**RED POLLED CATTLE.**

For Sale—Eight choice young bulls from 7 to 11 months old.

**I. W. POULTON - MEDORA, KANSAS**

**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.**

**Bred Sows and Gilts**

By the great Duroc Jersey boars, Country Gentleman, Gold Medal and Long Wonder 2d. Bred to Country Gentleman and Gold Medal. All immune. Prize winning blood. We price them right.

**W. E. HUSTON - AMERICUS, KANSAS**

**BIG-TYPE HEAVY-BONED DUROCS**

Bred sows and gilts by Blue Ribbon Model, first prize winner at Iowa, Minnesota and South Dakota, 1911. Bred to Illustration Jr. and Col. Gano Again.

**CHAS. CHRISTIANSON, AKRON, IOWA.**

**DUROC BOARS AND BRED GILTS**

Large, smooth, easy-feeding type. From champions Long Wonder, Defender, Superba and Golden Model breeding. Also fall pigs. Everything immune.

**JOHN A. REED - LYONS, KANSAS**

**BOARS! BOARS! BRED GILTS!**

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

**G. M. SHEPHERD - LYONS, KANSAS**

**GUARANTEED IMMUNE DUROC BRED GILTS**

Pedigreed Duroc gilts, prize winning blood, guaranteed immune and in farrow. Shipped to purchaser on approval before he pays for them. Prices reasonable. Address

**F. C. CROCKER - FILLEY, NEBRASKA**

**BERKSHIRE HOGS.**

**BIG-TYPE BERKSHIRES FOR SALE**

Sired by grand champion boars of Illinois and Missouri State Fairs. Also S. C. Black Minorca chickens. **J. V. FISH, Route 7, Bolivar, Mo.**

**NASH'S BERKSHIRES**

Choice bred gilts from \$25 to \$35. Bred to two first prize state winners. Choice fall pigs ready to go at \$25 per pair.

**C. G. NASH, ESKRIDGE, KAN.**

N. E. Stucker, of Ottawa, Kan., the well known breeder of Shetland ponies, has sold his entire herd of Shetland ponies, sale to be held February 10. Forty-eight head of choice Shetlands will be catalogued for this sale. The offering will consist of thirty mares, fourteen stallions and two geldings. They are from thirty-six to forty-two inches high, spotted and solid colors.

## L. V. O'KEEFE and GEO. WEDD & SON ANNOUNCE THEIR GREAT SALE OFFERING FROM THE TWO FAMOUS HERDS

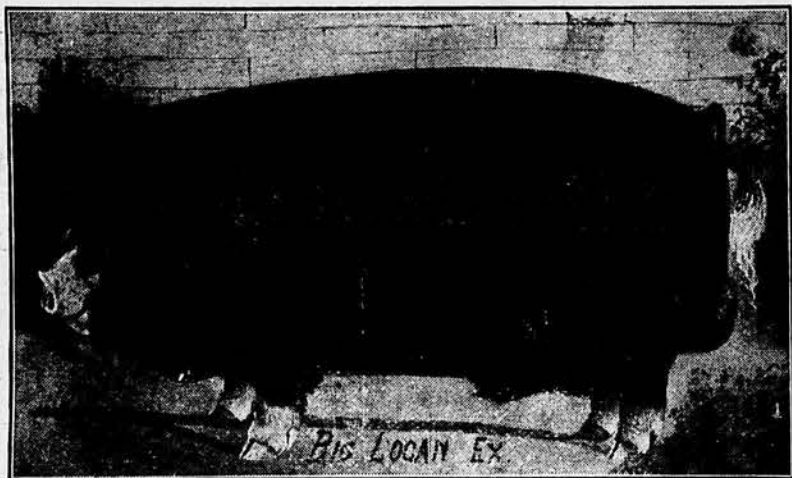
FORTY-SIX HEAD

Thirty-Two Fall Yearlings, Three Spring Gilts, Eleven Tried Sows.

WILL SELL AT L. V. O'KEEFE'S FARM

NEAR STILWELL, KANSAS,

**TUESDAY, FEBRUARY 8, 1916**



This will be without doubt one of the greatest offerings sold this spring. They have size and quality and are fed and bred right to do the purchaser the most good. A very strict guarantee on all, and everything immune.

This offering includes as good and as big brood sows as you will see sell through any sale ring this season. They are sired mostly by Big Logan Ex, Missouri Metal, Model Prince, Wedd's Long King, Wedd's Expansion, Big Orange and A King, and are bred to four boars that are as good as the breed produces.

Write for our illustrated catalog, giving all information regarding the offering. Write today to either of us, and mention this paper.

**L. V. O'KEEFE - - - - - Bucyrus, Kansas**  
**GEO. WEDD & SON - - - - - Spring Hill, Kansas**

Fieldman—O. W. Devine.

Auctioneers—Cols. R. L. Harriman, E. A. Calahan and R. L. Tracey.

## H. C. GRANER'S Poland China Bred Sow Sale

**At Farm Near Lancaster  
Thursday, February 17**

**EIGHTY HEAD OF BRED SOWS AND GILTS**

Mostly by Long King's Best, A Wonder's Equal and Moore's Halvor. Will be bred to Big Spot by Big Orange; Long King's Best; Maples Wonder, and Bob's Boy by Big Bob Wonder.

**I Am Selling My Entire Herd. Nothing Reserved.**

Am quitting the hog business and will devote more time to my Shorthorn cattle. I have not the time to care for both herds.

**My Sows are as Good as Can be Found on  
One Farm and if You Want Real Good  
Ones, I Have Them. Everything Sells.**

**YOU CAN BUY THE BEST**

O. W. Devine will represent Kansas Farmer at sale. Send for catalog today.

**H. C. Graner, Lancaster, Kan.**

Auctioneer—F. J. Zaun.

## Polands and Durocs AT MY FARM NEAR CRAIG, MO., FEBRUARY, 17, 1916.

**Twenty-Five Large Poland China Bred Sows and Bred Gilts**  
Sired by Jumbo, A Wonder, Hadley, and King Alexander, and bred to Rude's Big Joe 2d by Rude's Big Joe.

**Twenty-Five Duroc Jersey Sows and Gilts**  
Sired by Critic, King Gene by King Of All, and bred for early litters to Crimson Critic, a Crimson Wonder bred boar.

Send for catalog and arrange to attend my sale at farm near Craig, Mo., north on Burlington from St. Joseph, Mo.

**O. W. LONG, CRAIG, MO.**

Auctioneers—Cies Bros.

## PUBLIC SALE OF HOLSTEINS

**At Seneca, Kansas, February 11, 1916**

In order to make room for my fast increasing herd of registered Holstein cattle, I must close out my entire herd of

### Choice Grade Holstein Cows and Heifers

Consisting of twenty-five cows and heifers from two years down to a few weeks of age. These cattle will be sold without reserve on my farm 3 1/4 miles north of Seneca, Kansas, February 11, 1916, beginning at 1 o'clock p. m.

My foundation herd of ten cows produces on an average 459 pounds of butter in one year under ordinary farm care. I have used only the best bred registered Holstein bulls on these cows, and the stock offered consists of these foundation cows, their daughters and granddaughters.

I will also sell at the same time my four-year-old herd bull, Hamilton Colantha Fayne, No. 99467, a near relative of the world's record three-year-old cow, an excellent breeder. Three-fourths of his calves are heifers. Also three choice yearling bulls, three almost ready for service, and two bull calves.

Herd free from contagious abortion and every animal is tuberculin tested.

Parties coming from a distance will be met at the Gilford Hotel, Seneca, on the morning of the sale. Free transportation to and from the farm.

**HARRY D. BURGER - - - - - Seneca, Kansas**

AUCTIONEERS—COL. LEONARD, COL. LALLEY, AND COL. CRANDALL.

**MENTION KANSAS FARMER WHEN YOU WRITE.**

## HERMAN GRONNIGER & SONS' Poland China Sale

**Fifty Bred Sows and  
Fall Yearling Gilts**

**At Farm Near Denton, Kans.**

**Wednesday, February 16**

Twenty sired by Tecumseh Ex, six by Victor's Expansion, one by Rexall, five by Exalter's Rival, five by Scott's Big Boy, one by Mabel's Wonder, two by Orange Price, three by Defensive by Defender, three by Melborn's Chief, two by Big Look by Grand Look, and other good sires. These sows and gilts are bred for early spring litters to Futurity Rexall, Big Bob 2d, Shamrock, and Melborn Jumbo.

**This Offering Is One of the Best That Will Be Sold in  
Northeast Kansas This Year**

And the best lot we have ever sold. Arrange now to attend our sale. O. W. Devine will represent Kansas Farmer at sale. Send for nicely illustrated catalog today, addressing

**HERMAN GRONNIGER & SONS  
BENDENA, KANSAS**

(Sale at farm two miles from Denton.)

Auctioneer—Col. R. L. Harriman.

# Only 10½¢ a Rod!

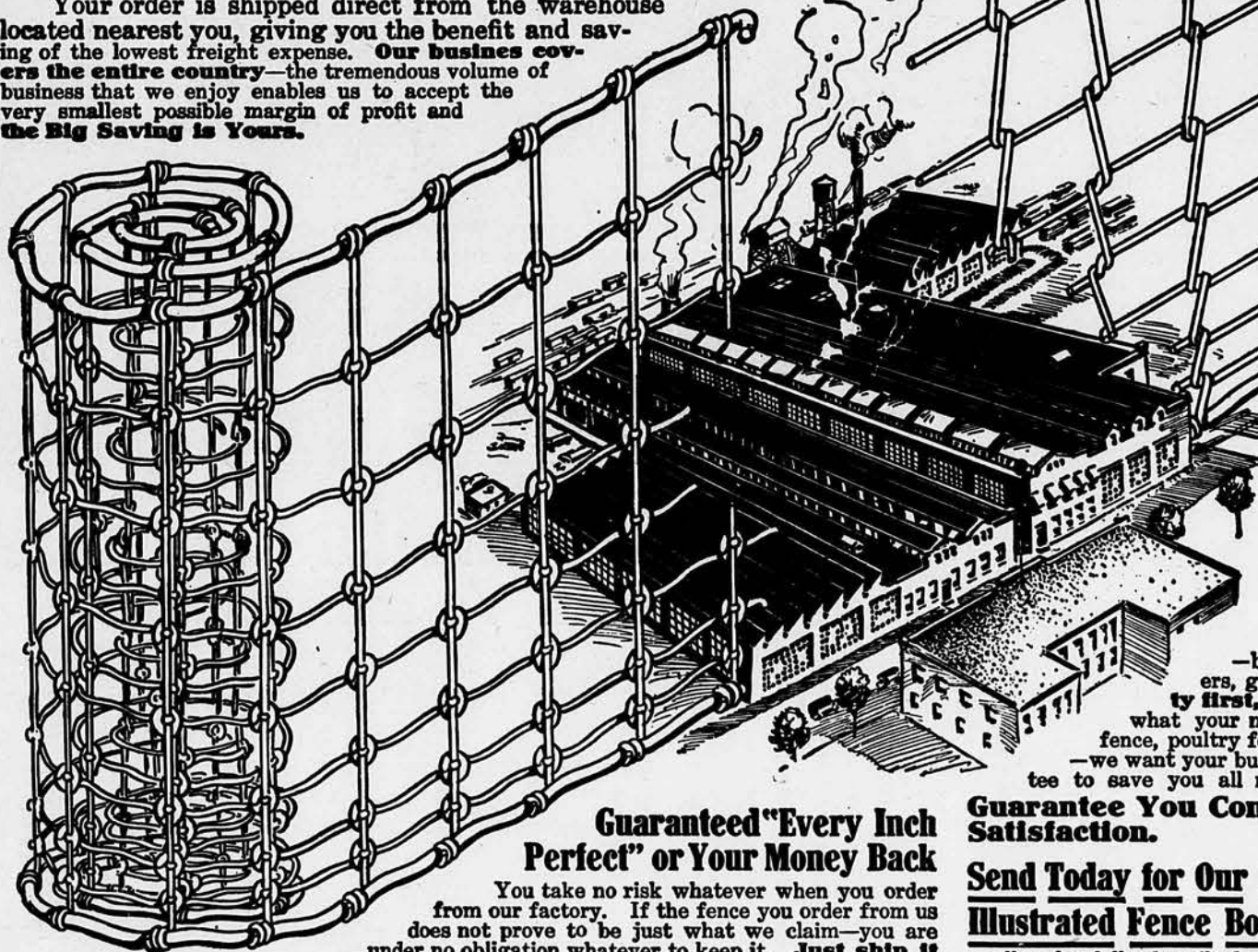
**The Very Best Wire Fence Ever Made. This Low Price Possible Because We Sell Direct From our Big Factory—Saving You All Middle Profits.**

**D**ON'T think of buying a single rod of wire fence until you get our FREE FENCE BOOK and Price List. You can buy the highest quality fence of every kind, weight and size, **direct from our mills**, at prices unequalled by any other factory or dealer in the country. Remember, you pay only one profit—and that a very small one, when you deal with us. You act as your own dealer,—your own agent, and save the **three or four profits** you are compelled to pay when buying fence the **old way**.

**We buy wire in train load lots direct from America's greatest mills.** We take advantage of every decline in the market during the dull seasons and stock up our warehouses to capacity. This wire is made up into fence of every size and style and shipped **direct to the farmers of America** from six strategic distributing points—Ottawa, Kansas, Brazil, Ind., Denver, Col., Ft. Worth, Texas, San Francisco, Cal., Lincoln, Nebr.

## We Save You on Freight

Your order is shipped direct from the warehouse located nearest you, giving you the benefit and saving of the lowest freight expense. Our business covers the entire country—the tremendous volume of business that we enjoy enables us to accept the very smallest possible margin of profit and **the Big Saving is Yours.**



### Guaranteed "Every Inch Perfect" or Your Money Back

You take no risk whatever when you order from our factory. If the fence you order from us does not prove to be just what we claim—you are under no obligation whatever to keep it. **Just ship it back at our expense** and we'll return every penny of your money, including any freight charges paid by you. **That's Our Guarantee**—nothing could be stronger or more liberal—**it means your protection** and at the same time indicates our confidence in our product. **We know "Ottawa" Fence is right**—that the Ottawa Non-slip Tie is the most valuable idea ever used in fence manufacturing. **It cannot slip**—it is guaranteed not to slip—it will hold under any and all conditions.

### Heavily Galvanized—Withstands All Weather Conditions.

Years and years of service go with each roll of Ottawa Wire Fence. If it fails to make good in **any way**—tear it down and ship it back to us. If it ever slips—send it back—your money will be waiting for you.

## FREE! BIG BOOK of Wire Mill Bargains

**Send for it Today.** You will find our Big Free Wire Fence Catalog the most interesting and instructive book on the subject of wire fence ever issued. Filled with pictures showing just how Ottawa Fence is made—the 164 styles we offer, all fully described. This book is a sure guide in fence buying.

**USE THE COUPON**—or a postcard—send your name and address for a copy of our **free 40 page fence book**—it means money in your pocket.

**OTTAWA MANUFACTURING CO. 9001 King Street Ottawa, Kans.**

### 164 Serviceable Styles From Which to Select

We offer you every style and weight of fence and gates—made of the very best wire that money will buy—by a skilled corps of wire fence workers, guided by the Ottawa policy of **quality first, last and all the time**. No matter what your needs may be in the fence line—hog fence, poultry fence, field fence or ornamental fence—we want your business because we absolutely guarantee to save you all middle profits and at the same time

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### Send Today for Our Big Illustrated Fence Book

—all styles fully described and priced at a figure that will open your eyes.



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