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KANSAS FARMER

For the improvement  of the Farm and Home

Volume 52. Number 2. TOPEKA, KANSAS, JANUARY 10, 1914. Established 1863. \$1 a Year.

WE often fail to appreciate our blessings because they are common and familiar. Were Aladdin to appear again on earth and with his magic lamp turn winter into summer, we would think it a great thing. Yet this, virtually, is what the silo has done for the cow. In place of the dry, harsh, weather-beaten fodder of the past, the silo provides for her the most nourishing and succulent of foods, to be turned into milk, cream and butter. It saves the farmer time, labor and money, because it provides for the right kind of feed, at the right time and at the right place.

In the silo you have, not only a repository for green crops when crops are plentiful, but you have a place to store immature feed-stuff, which drouths and heat would surely dry up and burn, thus turning what might have been a disastrous season into a successful one.

The silo is the cow's canning factory, and enables her to give us June-grass butter all the year round.
—Thomas Owen



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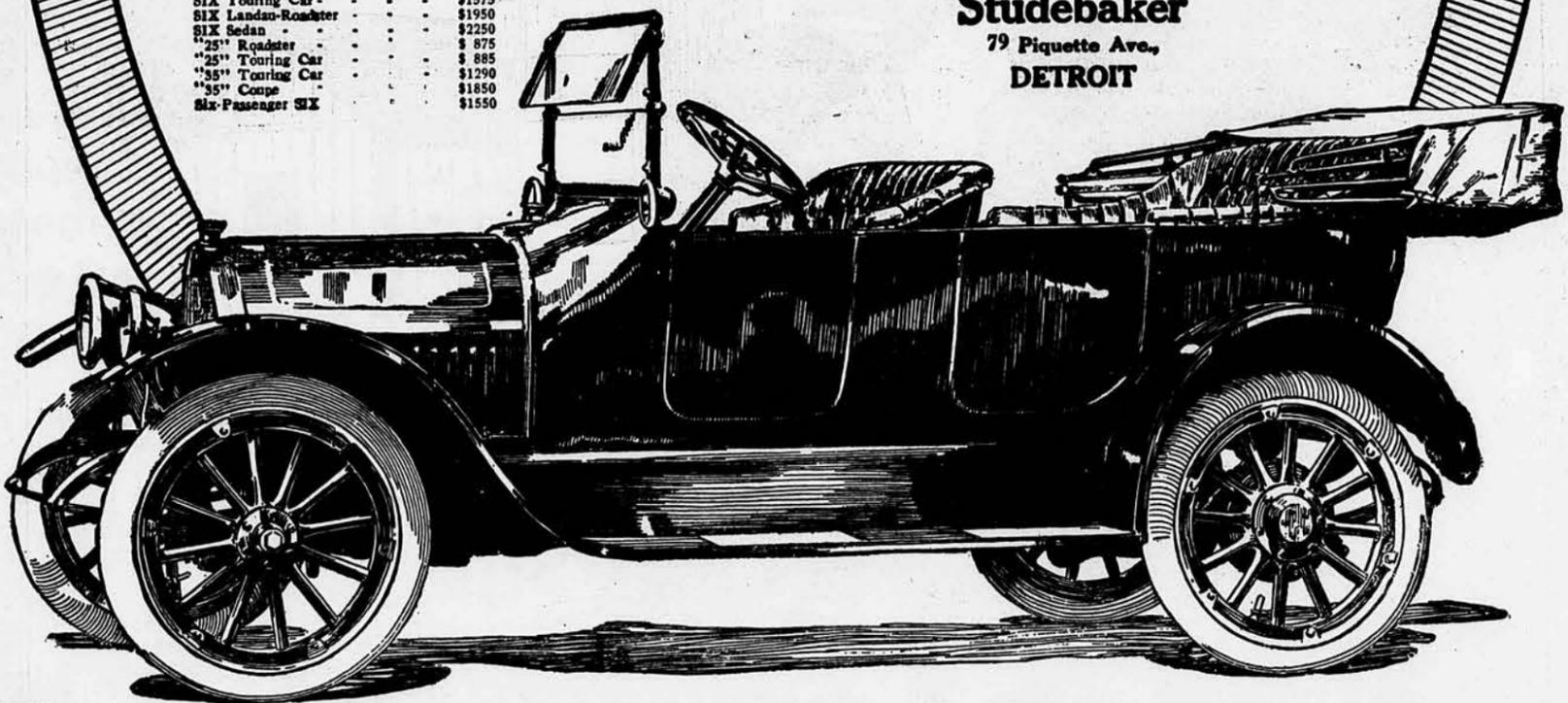
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KANSAS FARMER

With which is combined FARMER'S ADVOCATE, established 1877.

Published weekly at 625 Jackson St., Topeka, Kansas, by THE KANSAS FARMER COMPANY.
 ALBERT T. REID, President. JOHN R. MULVANE, Treasurer. S. H. FITCHER, Secretary.

T. A. BORMAN, Editor in Chief; G. C. WHEELER, Live Stock Editor.

CHICAGO OFFICE—604 Advertising Building, Geo. W. Herbert, Inc., Manager.
 NEW YORK OFFICE—41 Park Row, Wallace C. Richardson, Inc., Manager.

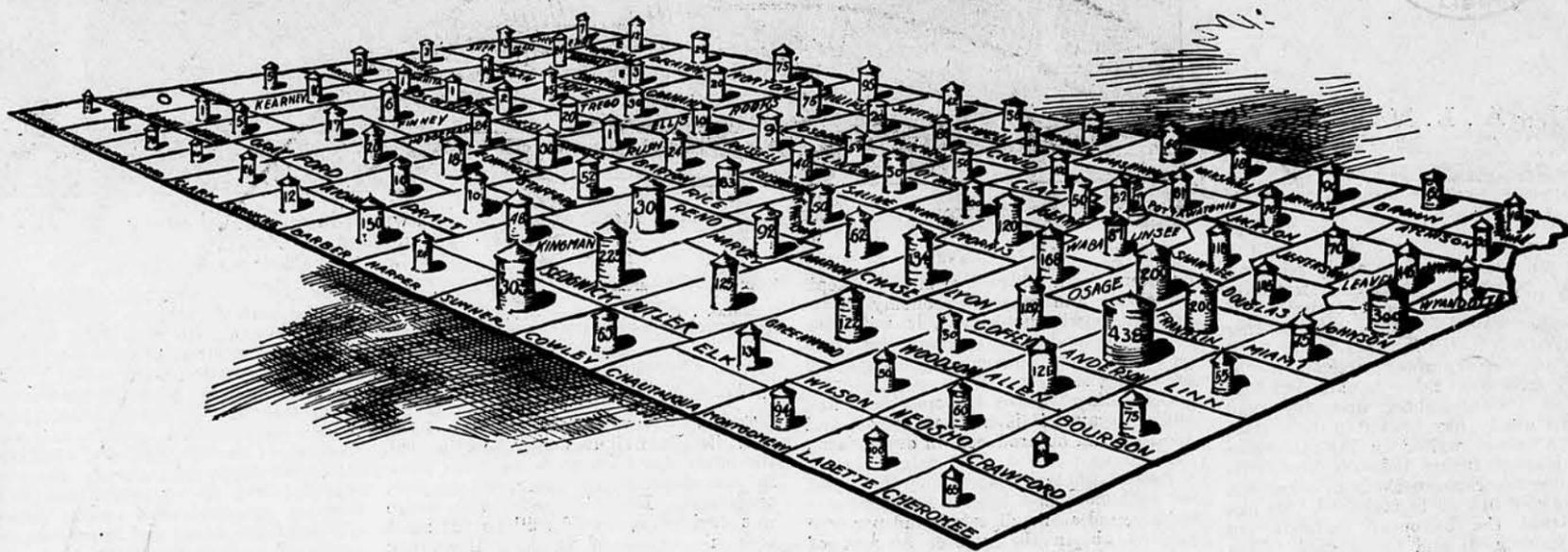
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SILO WIDENS FARMERS' HORIZON



THE FIRST SILO MAP OF KANSAS.—SILO CENSUS BY KANSAS FARMER SHOWS 6,978 SILOS.—MORE THAN 95 PER CENT HAVE BEEN BUILT IN THE YEARS 1911, 1912 AND 1913.—NECESSITY FOR SAVING ALL THE FEED IN THE BEST CONDITION AND TO RETAIN ITS MAXIMUM FEEDING VALUE HAS MADE THE SILO ESSENTIAL.—IF THESE ARE GOOD PRINCIPLES IN THE "LEAN" YEARS, THEY ARE BETTER FOR "FAT" YEARS.

THERE is no way by which the farmers of Kansas can escape the silo. Sooner or later every stock-owning farmer will have a silo. The man who is keeping ten or twelve cows and their young is losing the price of a silo each twelve months. He might just as well have a good silo to show for that loss. The silo is no longer an experiment—not even in Kansas. Ask the farmer who has one.

Live stock farming is the basis of the most profitable type of general farming—in Kansas as elsewhere. It is certain that if the farmer would be as prosperous as he can be, he must increase his numbers of all kinds of stock. To maintain live stock economically and profitably, the farmer must have a sure feed supply. The silo will enable him to have this because it will permit carrying feed over from the year of plenty into the short year. Silage is as safely stored as is wheat or corn.

Since growth, meat and milk can come only from the feed consumed by the animal, the feed supplied should be of such character as will cause the animal to eat abundantly and at the same time maintain the animal in good health. If it would eat much, then the feed should be palatable and possess the succulence of grass. Palatability and succulence are two essentials of a good ration. These are possessed by the grasses of June and by the green corn, kafir or cane stalk. The silo preserves these two qualities—in ordinary feed-saving methods succulence is almost wholly lost and likewise much of palatability. These are qualities which promote health and growth and contribute much to the economical production of meat and milk.

The silo will come near doubling the live stock carrying capacity of every Kansas farm without encroaching upon the acreage of cash market crops grown. This is because an acre of corn, kafir or cane, when placed in the silo, will produce near double the amount of animal growth or gain as compared with the same acre of feed saved in any other way. It is for these and other reasons that the silo is economical.

To a great extent the live stock capacity of the farm is now regulated by the pasture acreage. Good pastures outside of the tame grass sections are rare in Kansas. Thousands of acres of land are practically idle because they produce so small an amount of grass. The fact is that the best remaining wild grass pastures supply a maximum of feed only during May and June—before and after these months the animal is on a short ration, even during the pasture season. When on pasture or during the feeding season, the animal is not kept at a maximum of profit unless it gets all the good feed it needs all the time. Under the present system if the animal is not well fed when on pasture, or if the pasture acreage required is two or more times as great as need be, then the waste is recklessly expensive.

Through the use of the silo is the best means of supplementing short pasture. In fact it is the best substitute

farmers in any state have found for pasture. The silo in many states, and on some farms in Kansas, is being used as a pasture substitute. There are many farms outside the tame grass section, on which there is no pasture and for which reason no cattle, milk cows or sheep are kept. The silo used for both summer and winter feeding will enable such farms to carry as large herds as the available help will permit.

Every farm in Kansas will grow silage—either corn, kafir or cane. In Kansas within the last two years corn has been deposed as the king of silage crops. The sorghums have been established as the new king because they are as good as corn in the silo and produce abundantly in seasons when corn fails.

The maximum feeding value of these crops can be preserved only through the silo. Since a much larger acreage of Kansas land will successfully grow kafir and cane than corn, the possibilities for growing feed are greatly increased, and no man dares guess as to the future of live stock farming when the true value of our forage crops, intelligently used through the silo, is fully appreciated.

There is no good reason why we should plow the ground and plant and cultivate a crop and through inefficient management make less than 50 per cent of that crop available for profit. This is a reckless waste of feed and labor which we in Kansas have too long practiced.

Providence has endowed Kansas with plants adapted to the best and most economical feeding of live stock. The crop grower and feeder has failed to appreciate this bounteous gift. The silo will enable him to retrieve his losses of the past by taking full advantage of the future. The silo is the one farm building needed to make possible permanent, prosperous feeding. It will bring together our feed crops and our live stock in a combination which we have long since needed.

Let the silo be the next structure placed on your farm. It will become a dividend-paying investment just so soon as you begin feeding therefrom. It will prove a step to greater successes.

There is no use in delaying the building of a silo because you do not know the kind to build. Kansas has every kind of silo ever built. Some are better than others, to be sure—some are more permanent than others—but there is a type of silo for every pocket-book and one to suit every point of view. The kind you should build will depend upon a good many things peculiar to your own situation. But, build a silo—you need one.

The census taken by KANSAS FARMER, through its correspondents, would indicate that there are 6,978 silos, of all kinds, in use in Kansas this season. Of the 6,978 silos listed, the figures for 19 counties, involving 1,057 silos, are estimates only. However, it is our belief that these counties are listed on a conservative basis. Only one county—Stanton—has no silos reported.

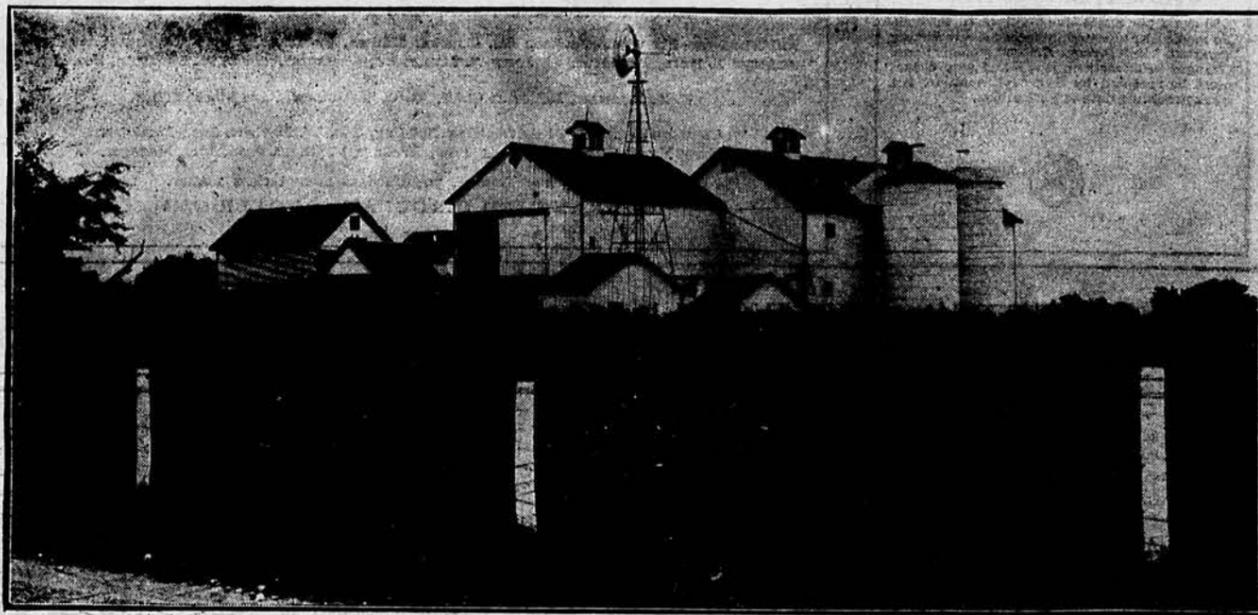
Silo users and others who may be interested in a correct showing for their counties, are invited to report.



ECONOMIC VALUE OF SILO

Silage and Live Stock Economic Necessity. Alfalfa and Silage Greatest Ration Ever Known

By A. L. HAECKER



ECONOMIC USE OF CORN PLANT PRIME FACTOR IN MAKING THIS WELL-EQUIPPED FARM PLANT POSSIBLE.—SILAGE CORN NEAR AT HAND, AN IMPORTANT CONSIDERATION AT FILLING TIME.

WE are inclined to apply economic principals through necessity rather than choice, or putting it in another way, "Necessity is the mother of invention." Unfortunately a great many of the improved methods of industry have been taken up and put into practice through sheer necessity, and this naturally has caused a late coming. A recent writer on the American steel manufacturing industry has criticized the American methods as being out of date and not up to standard. He has cited that the European methods are more economical and up to date. This comes as quite a surprise, as we have always considered the American steel manufacturer as being the very foremost in the use of labor-saving and economic methods. Evidently the demand for economy with the European manufacturer has had its rich reward in improved and economic methods.

So it is with the silo. Only through necessity of economy in feeding has it come into general use. Even after the prices of forage and grain had risen to a point where there was little profit in feeding, the feeder went on for a few years actually losing money and in many cases quit the business in disgust before he found the cause of the trouble and began to study the matter from an economic standpoint. It is really simple, this feeding problem, for it is much the same problem as confronts the manufacturer of a commercial product.

The cost of supplying food nutrients to the animal, or in other words the cost of digestible protein and carbohydrates is the soul and substance of the whole feeding business. The silo has come because through it we could obtain a supply of carbohydrates in a cheap and succulent form. If we could obtain this material in a cheaper way, the silo would be of no use.

Although the silo has come to all parts of the corn belt, and especially in Kansas, where its shadow is cast on more than 3,000 farms, there still is great need for many of these profit-getting buildings, and there still is much to learn about the best methods of putting up and feeding silage. Perhaps there is no other state in the Union where the use of the silo is more in keeping with the methods of farming being followed than in the state of Kansas. Kansas is the hub of the Union, farthest from the seaboard, center of the lowest prices for corn and hay, and it is fitting that this great state should produce a finished article, that they should market their cornstalks and alfalfa in the form of butter, beef, pork and eggs, rather than as raw material.

As the greatest alfalfa region in the world, the farmers of Kansas need corn silage to balance the high per cent of protein contained in this leguminous hay. The man who compels his animals to live on alfalfa alone compels them to eat twice as much protein as they need in order to get a living ration of carbohydrates. This can be done, but it overworks certain functions in getting rid of the surplus nitrogen which cannot be stored in the body. This is why the kidneys of horses and even cattle are injured by too much alfalfa. It is not the aim of this article to criticize alfalfa, but rather its misuse. We should have more alfalfa and it should be fed

on every farm where live stock is kept. To obtain the greatest economy in its use we must supplement it with the corn plant, and in no way can this plant be so fully and economically used as by preserving it in the silo.

Corn silage makes economic beef and butter because it is a cheap ration, and one that can be produced on every farm. Perhaps no plant is more valuable from a food standpoint than corn. It is food for both man and beast. Its parts are quickly and easily digested, and per acre we can obtain the greater amount of valuable food by the use of corn than from any other crop grown. It is not uncommon to find a yield of 20 tons of corn silage on a single acre. This is perhaps the greatest stock food source we have access to, and to take advantage of the opportunity is the business duty of every cow-keeper. In quantities of 150 tons of silage or more it can be produced on the Kansas farm at a cost of about \$2 per ton. The following figures give the itemized cost of producing corn silage:

COST OF CORN SILAGE.	
Rent of land, per acre.....	\$ 4.50
Plowing and harrowing, per acre.....	2.00
Seed corn, per acre.....	25
Planting, per acre.....	30
Harrowing and cultivating, per acre.....	2.25
Total, per acre.....	\$ 9.30
Average yield, per acre.....	13 tons
Cost per ton to grow.....	\$ 0.72
COST OF FILLING SILO.	
Eleven men at \$2 per day.....	\$22.00
Seven teams at \$2.25 per day.....	15.75
One traction engine, per day.....	7.50
Engineer.....	2.50
Coal.....	3.00
Board for men.....	6.00
Total.....	\$56.75
INTEREST AND DEPRECIATION.	
Interest on money invested in a 150-ton silo.....	\$25.00
Interest on money invested in machinery.....	12.00
Depreciation and repairs on silos and machinery.....	30.00

Taxes and insurance.....	6.00
Total.....	\$73.00
Interest and depreciation for 150-ton silo, per ton, 48 cents.....	
SUMMARY.	
Cost of growing, per ton.....	\$ 0.72
Cost of putting in silo, per ton.....	.75
Interest and depreciation, per ton.....	.48
Total cost of corn silage, per ton.....	\$ 1.95

While these figures may be criticised, the effort has been made to make them in accordance with average corn belt conditions. Even if the cost of silage was doubled, it would still be the most economic source of feed for live stock that could be found on the farm. Enough corn fodder and other fodder crops are wasted every year in the state of Kansas alone to feed all the stock of three or four states.

The silo is not only an economic and almost necessary equipment in the producing of stock and stock products profitably for the individual farmer, but it is also a great national conservation subject and is receiving the endorsement of all men who are thinking and working for the betterment of our country. The future greatness of our nation depends largely on the success of the food producer in feeding our people cheaply without having to lower his own standards of living.

Coming of the Silo.

The need for economic production of stock and stock products has been apparent for several years. While the producer has complained of lack of profit in the business, the consumer on the other hand has been demanding cheaper meat and dairy products. Here the silo seems to come in as a peace-maker and certainly as a means of furnishing relief to both producer and consumer. The economy of the silo has been thoroughly demonstrated by the experiment stations

throughout the country. Seven or eight of the central states have conducted tests pointing to the fact that corn silage lowers materially the cost of making beef, mutton and milk. The Indiana, Iowa and Missouri Stations find that beef can be made from \$1.00 to \$1.50 per hundred pounds cheaper by the use of the silo. Several other states also demonstrated about the same saving. The saving in the cost of butter fat produced runs from 8 cents to 10 cents per pound and in rearing young stock or producing mutton, there was a corresponding saving.

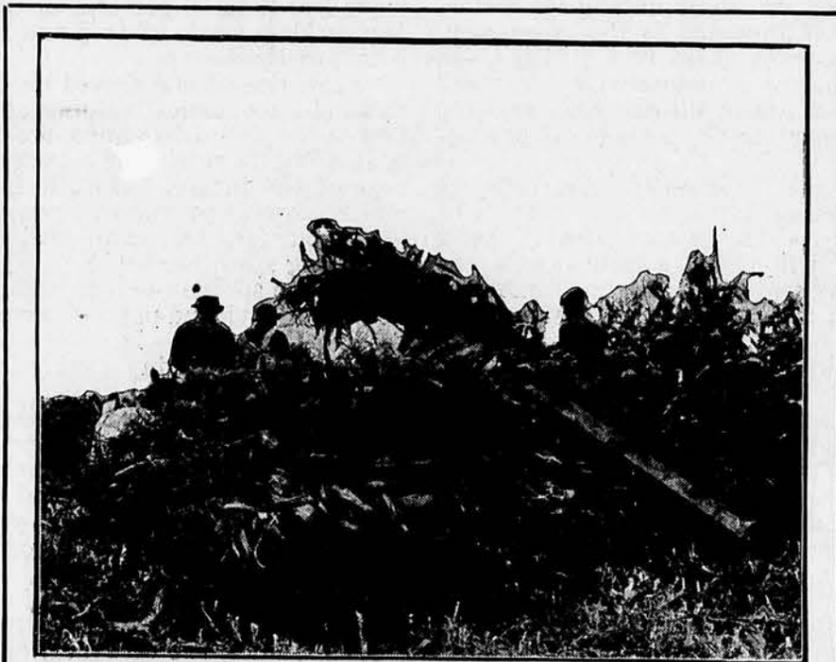
The great convenience of the silo is a factor which most silo users are enthusiastic in describing. When the weather is cold and disagreeable and the roads snowy or muddy, the silo is certainly a great boon and it is easier, as one stock feeder mentioned, to feed a hundred head of cattle with a silo than twenty-five without it. The storage space is also on an economic basis. Practically eight times more feed can be stored in a silo, ton for ton, than hay in a mow.

Another essential feature of the silo is the beneficial effect on the cattle. Cattle can be kept in a thrifty, growing condition in the winter months. Milking stock will produce fully as well when fed silage as they do when on the best pasture. Fully a year can be saved in the development of young stock if they are kept growing and not allowed to get a setback during the critical seasons of fall and winter. By the use of the silo this is easily accomplished.

The adoption of the silo is a great conservation movement for it is apparent there is now a fearful waste of stock food in the way of corn stalks and leaves. It is estimated that the value of Nebraska's corn crop this year is about \$80,000,000. When we realize that this was a poor corn year and that much of the value of the corn plant never reached the form of grain, it is safe to assume that 50 per cent of the nutriment of the corn crop this year remained in the stalk and leaves and it is also safe to say that the great bulk of the nutriment was lost through weathering and freezing and exposure to the elements. Then to state that Nebraska farmers lost in the neighborhood of sixty to eighty million dollars worth of foodstuff which they had already grown, is an astounding fact, but it is quite true nevertheless. Of course all of this waste cannot be saved for there will always be much corn grown in the state for grain purposes only, but a great part of this can be saved through the silo and where stock are fed it certainly should be the method of putting up the corn plant.

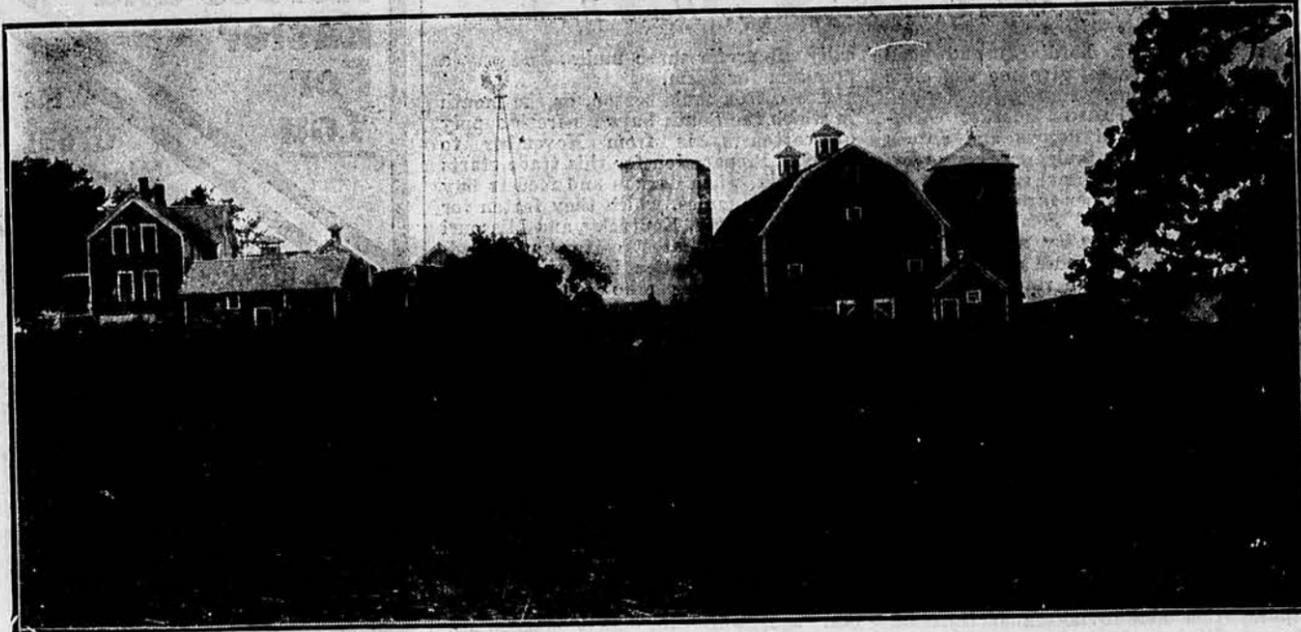
In many parts of the state severe losses were reported from cornstalk disease in both cattle and horses. This loss could be easily prevented by putting the corn in the silo. I believe the loss from this one source in the past ten years would build practically all the silos needed on the farms of the state. There were also many animals lost from the exposure to cold and hunger. This was the "Price of the Prairie," or the cost of the experience in finding the best methods of coping with the conditions of the country.

(Continued on page ten.)



CORN HUSKER WITH WAGON ELEVATOR SAVES MUCH HAND LABOR.

SOME SILAGE EXPERIENCES



THIS FARM SCENE GIVES EVIDENCE OF SOLIDARITY AND PERMANENCE FROM RESIDENCE TO BARN FLANKED BY THE TWO SILOS, THE GREATEST MONEY-SAVERS OF THE WHOLE EQUIPMENT.

QUESTIONS have often been asked and answered in the columns of **KANSAS FARMER** regarding the use of alfalfa in the silo. A good many attempts have been made to use the leguminous crops for silage purposes. There seems to be several serious objections. Studies in the chemistry of silage have seemed to indicate that a silage crop must have the proper amount of sugar or carbohydrate material in order that the proper fermentations take place. These fermentations are necessary in order to develop the organic acids which seem to have an important function in the proper preservation of the silage.

Leguminous crops contain relatively large amounts of nitrogen, which go to produce undesirable fermentation products; bad odors result and undoubtedly some considerable amount of protein is lost to the plant as a result of the formation of these disagreeable fermentation products.

W. E. Taylor, director of the soil culture work of the John Deere Implement Co., has given some thought to the use of alfalfa in the silo, and writes as follows concerning his observations:

"Is it practicable to put alfalfa in the silo? We will answer that question by saying 'yes' and 'no.'"

"We know that corn silage is a carbohydrate and that alfalfa is a nitrogenous food containing a much larger per cent of protein than corn. In order to secure the best results from either alfalfa or corn, the two feeds should be mixed in the right proportion. If alfalfa and corn or alfalfa and the sorghums can be combined in the silo in about the right proportion, it affords a great convenience as well as a saving and the animal is more liable to receive a balanced ration than if the two feeds are given separately.

"The advantages of preserving alfalfa in the silo are:

"First: The leaves are saved. If alfalfa hay is cured and care is not taken to put it up before it is too dry, many of the leaves are broken off and lost. While only two-fifths of the total weight of the alfalfa plant is in the leaves, three-fifths of all the protein the plant contains is in the leaves. In other words, forty-four pounds of the leaves contain as much protein as one hundred pounds of stems. Analyses shows that the leaves are somewhat richer than bran for feeding purposes.

"Second: If alfalfa is exposed to rains, much of the protein is lost for the reason that crude protein in hay is soluble. It is estimated that if alfalfa is exposed to rain for ten days or two weeks, as much as forty per cent of the protein is lost and even one rain lessens its value. If, however, it is placed in the silo in the green state, the loss amounts to very little providing the siloing is properly done.

"If alfalfa is placed in the silo in the green state when it contains an excessive amount of moisture, it is apt to be slimy, because of the action of putrefying bacteria, and much is spoiled around the edges, due to an absence of fermentation on account of loose packing. If, however, the silo is deep and thoroughly packed, the loss is considerably lessened. The loss is also much less if the silage is chopped up by a

silage cutter as in that condition it can be more firmly packed.

"The Colorado Agricultural Experiment Station found that silage made from whole alfalfa showed a loss of 10.7 per cent, while chopped alfalfa was damaged to the extent of only 7.3 per cent.

"The best plan, and to my mind the only safe one, is to silo the last cutting of alfalfa, mixing it with corn. If the alfalfa is green, the corn should be somewhat dry, otherwise putrefaction is liable to take place, due to an excessive amount of moisture. In case the corn is a little green, it is best to permit the alfalfa to wilt considerably before it is chopped up and siloed. Usually the best results are obtained from a mixture of about one ton of green alfalfa to three tons of green corn fodder.

"It is perfectly feasible to silo cowpeas and soy beans with corn if precaution is taken to place them in the silo when they are in the right condition. When filling have them thoroughly mixed with the corn and firmly packed. If the farmer will exercise good judgment in mixing any of the legumes with corn or the sorghums, in the silo, he will save practically all of their feeding value, save much labor and provide for his stock, during either winter or summer, a well balanced succulent ration. It is not practicable to silo legumes alone, but it is with corn or sorghums."

Dry Fodder in Silo.

More or less has been written regarding the use of dry fodder in the silo. Many stockmen who have been short on feed have practiced the second and sometimes even the third filling of their silos during the winter with dry fodder hauled in from the field.

The following letter comes from W. L.

M., one of our Sumner County silo users, and gives some valuable experience along this line:

"The dry fodder silage is coming out of the silo in good condition so far, except that there are small lumps occasionally that are moldy, but they are small and the rest is all right. While I wouldn't advise putting in dry fodder if one can get it in green, yet I think it is safer and in the end cheaper to put it in the silo dry than to let it stand out in the weather.

"They say 'Experience is a dear teacher,' and I found it so this year in filling silos. If I had known before filling what experience taught me, it would have saved us at least \$100. To put in dry fodder you must have two sets of knives for the cutter. You must run in all the water the blower will carry without choking. You must use additional water and must tramp it as solid as possible. You must not expect to run dry fodder through as fast as green, because you can't do it. You must keep one set of those knives on the emery stone while you use the other, for sharp knives will save you more and do better work than dull ones.

"If you flood the silo after filling, it should be done immediately. I put 2,000 gallons on each of the 36-foot silos and 3,000 gallons on the 40-foot silo. You should always watch your silage and keep it tramped tight against the wall. This should be done at least every two days for ten days, and then once or twice a week for a month or two.

"Last year it took 28 acres of kafir to put in 280 tons, and it cost 76 cents per ton exclusive of board and horse feed, but it was only three-fourths of a mile to the farthest corner of the field, though a little muddy to haul a good load. This year it took 256 acres of dry corn fodder for 400 tons, and it cost about \$2.50 per ton to put it in, but

*Many Report
on Great Value
of Silage in the
Saving of Feed
on Their Farms*



By OUR READERS

none of it was nearer than one mile, and all would average about 2½ miles. Last year binding the corn cost 10 cents per ton, while this year it cost 64 cents per ton. I judge that there would be an advantage of at least \$100 in feeding the silage out of the silos this year instead of hauling it out of field as we feed it. The dry fodder, if left in the field, would have been practically worthless this year. If a silo will pay under such circumstances as we met in filling it this year, it will certainly pay under most any circumstances."

Experience With Moldy Fodder in Silo.

We are just in receipt of a letter from our subscriber, J. T. S. of Marion County, in which he gives us a little of his experience in running moldy corn fodder into a silo. This letter was suggested by a reply to an inquiry along that line which appeared in **KANSAS FARMER** recently. His letter follows:

"Noticing the question of T. M. L., Butler County, and the proposition of E. L. J., Coffey County, as to putting damaged stover into the silo, I will say I am now putting corn (shock corn) into the silo at the present time, much of which is thoroughly water soaked, portions being dry with a light mold on it and a good portion in very fair condition.

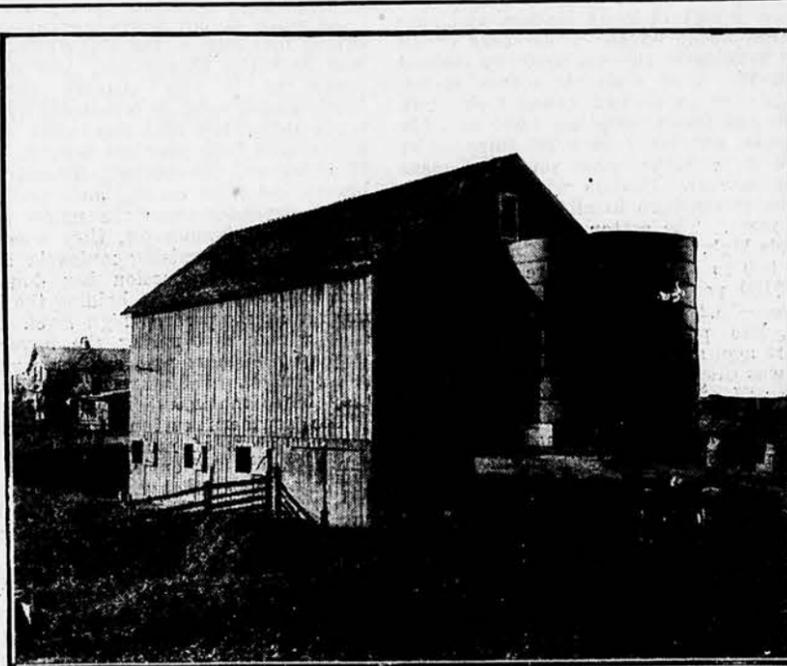
"With a 13-inch cutter and blower and an 8-horse power gasoline or oil engine we ran a three-quarter-inch stream of water into the blower. Cutting it in one-inch length it keeps one man busy putting the fodder into the machine. I have examined the material in the silo and find it steaming hot and undergoing fermentation and cooking out nice and brown. The fresh cut portion after the working and beating it got in the blower looks clean and wholesome, and I am satisfied it will make excellent silage.

"It is a case of being 'between the devil and deep sea.' Many who put their fodder into the silo early lost it all by rotting; those who stacked had it rot in the stack and those who could not get either done are in about equally as bad a condition, but I believe those who can now at once take this wet frozen fodder and cut into any sort of a tank or silo in quantity large enough to hold the heat and cook it out well will save much of it yet. Wet thoroughly and pack as tight as possible.

"I am feeding alfalfa that has laid in the cocks for the past six weeks; cattle and hogs eat it rapidly. Some might put it into the silo. I have a quantity of nice, bright kafir fodder in the barn left from 1912 crop. Cattle won't eat it and never did more than pick it over. This I will cut into the silo and cook it out thoroughly and see what the results will be."

Silage-fed stock require one-third less grain than cattle fed dry fodder, and produces beef more economically.

Few facts in agriculture have been more clearly and conclusively established than that the silo is a necessity to the stock farmer. When we consider the various conditions under which the numerous experiment stations all over the country have been conducted it is surprising to find the results so similar and all pointing to the one conclusion.



SILO EXTENDS SIX FEET UNDER GROUND.—FEED BUNK OF CEMENT.

Only 10¢

"Modern Silage Methods"

SEND for this 264-page book of profit-producing information—the most complete work on this subject published. 1913 copyrighted edition now ready. Tells facts you ought to know about silage—used and endorsed by many agricultural colleges—over 45 illustrations—indexed—a wealth of useful information for the practical farmer. Chapters on—“How to Build Silos”—“How to Make Silage”—“How to Feed Silage”—“Silage System and Soil Fertility”—“Silage Crops in Semi-Arid Regions”—“All about Summer Silage, use of Silage in Beef Production and many other points. Ninth edition now ready. Send for your copy before too late. Enclose 10¢ in coin or stamps and mention this paper. Silver Mtg. Co., Salem, Ohio

Mules Continue in Demand

Thousands of Dollars Invested in Business. Increased Production of Mules Great Stimulus to Horse Breeding

FOR profits, hardiness and good animal sense, give me the mule every time.”

The KANSAS FARMER market correspondent has heard dozens and dozens of tributes to the mule on this order, and believes the animal merits every one of them. No other farm animal and no other agricultural commodity handled on the Kansas City market has a brighter future or a more enviable past so far as remunerative returns to their producers are concerned. Enormous profits have been earned by the breeders, feeders and dealers of mules in America since George Washington, the first president, started their production on this continent, and indications on the two leading mule markets—Kansas City and St. Louis—are that many more thousand dollars will be earned in the mule industry in the future.

Mules are so high today that one must be either a banker or have the friendship of a banker of no small means to be able to finance a mule business on an important scale today. As an instance, it is well to note that three of Kansas City's mule dealers are directors and stockholders in big banks. A. D. Cottingham, who is accredited the largest individual mule dealer in the world, is a director in the National Bank of the Republic of Kansas City. John M. Grant, Kansas City's mule commission dealer, who ranks among the best judges of mules in the country, is a director of the Interstate National Bank at the Kansas City stock yards. J. D. Guyton, who has been prominent as a mule dealer for many years, handling a great number annually, is a director of the Southwest National Bank of Commerce of Kansas City.

To understand why it takes so much money to finance the mule business, it is only necessary to examine the current range of prices at Kansas City and investigate the number of mules being handled by the dealers at that market alone. A. D. Cottingham, for instance, now has something like 800 mules on hand in his barns at the Kansas City stock yards and on his mule feeding farms near that market. How much of an investment do these 800 head represent? At least \$135,000. John M. Grant is feeding about 400 head on two Kansas farms as a side issue to his commission business, and there is something like \$65,000 invested in that mule deal, which is being conducted with a partner. J. D. Guyton has mules to the value of thousands of dollars in barns in the cotton states ready for sale to cotton planters. Another firm of mule dealers at Kansas City has something like \$300,000 worth of mules out on credit to South Carolina planters. D. H. Robertson & Co. have about 400 head, for which they paid Missouri and Kansas shippers about \$70,000. Womack & Nicoll are also carrying about 400 or more at Kansas City and have probably about \$70,000 invested in them. Morris Pyle has over 200, which cost no small amount. The annual sales of mules at Kansas City and St. Louis probably amount to between \$25,000,000 and \$30,000,000 in value.

Cotton mules are the principal grades of hybrids handled at Kansas City and other important mule centers, and constitute about 65 to 75 per cent of all the hybrids in the country. In carload lots, the most desirable cotton mules, which are 15 to 15.2 hands high, with flesh and finish, weighing 1,000 to 1,100 pounds, are being sold by shippers at \$175 to \$200 per head on the Kansas City market. Dealers who redistribute them to southern handlers obtain a little more. The cotton mules 14.2 to 15 hands high, with flesh and finish, weighing 900 to 1,000 pounds, are worth \$140 to \$160 per head. The smaller cotton mules—13.2 to 14.2 hands high—which are less popular today than several years ago, are worth \$90 to \$115 on the Kansas City market in carload lots. Put 25 or 27 of any of the better grades of mules in a carload or in a feed lot, and you have a neat sum, almost enough to make a liberal initial payment on the purchase of a fertile farm.

Fewer small cotton mules are being sold today, and some dealers believe the time is approaching when cotton mules will not be under 14 hands high. Most of the small cotton mules now go to the sandy soil regions of Mississippi and Arkansas, where the land does not require as large a mule for tilling the land. The Carolinas, Georgia, Alabama and Tennessee buy the highest-priced cotton mules at Kansas City. Practi-

cally all prefer mare mules, and pay a premium for them.

The cotton mule season, or the month in which the South buys its fresh supply of cottoners, is from November to March. Preparation for this trade starts in August, when dealers and feeders buy thin cotton mules, which they fatten for sale. Tennessee, Kentucky and Missouri are the three greatest cotton mule feeding states. Counties in each of them have many farmers who make this work their business each year. Kansas is growing in importance as a feeder of mules, as well as in breeding. Feeders try to get no mules younger than full threes, as the four to six-year-olds are the best ages. With the South prosperous, having harvested a liberal crop of cotton last year and having obtained very high prices, its planters are buying mules in large numbers.

Cotton mules 14.2 to 15.2 hands high are selling as high as ever now, which is a remarkable fact in view of record supplies in the country. The small mules are about \$5 to \$10 lower than a year ago, while the draft classes are \$10 to \$20 lower than at this time in 1913. Big mules, 15.2 to 16.2 hands high, weighing 1,100 to 1,200 pounds, command \$185 to \$225. Those 16 hands up, weighing 1,200 to 1,400 pounds, bring \$225 to \$250. The big mules have been affected adversely by the inactivity in new construction projects, which, of course, reduced the demand for them. There is no superabundance of big mules and a revival in the nation's industrial activity will strengthen their prices.

As in the case of horses, there is a comparatively extreme scarcity of fat mules at Kansas City. This is the result of scanty feeding and the drought. The other day Kansas City received 300 mules, and of this number no more than two or three loads carried the fat and finish so desirable in the market. In consequence, there is an almost unprecedented premium for fat mules. The shipper who brings a load of fat 15 to 15.2 hands mules may realize between \$175 and \$200 per head readily, while thin plain grades of the same size would be considered well sold if they brought \$140 to \$165. While fat cottoners 14.2 to 15 hands high are worth \$140 to \$165, the thin grades bring only \$115 to \$140. Even on the little mules flesh means an increase of \$15 to \$25 per head in market value. The premium for fat is so great that feeders are realizing liberal profits despite the high cost of feed.

A feature of the present status of the mule industry in the United States, which is encouraging to dealers in the hybrids, but which is reducing the country's supply of horses, is the expansion in production. Farmers of northern states who once refused to breed their mares to a jack are now eager to raise mules. Even in old Pennsylvania the jacks are being introduced and finding a wider use every breeding season. Farmers in the Far West are producing more mules, realizing that they have a home market for small mules in mines and for drafters in irrigation projects and railroad construction work. It is apparent from developments in the last two or three years that the demand for mules is growing faster than production.

As mules do not reproduce, the annual equine foal crop in the United States is now probably 15 per cent less than it would be if this country produced horses exclusively. It is believed by mule trade authorities that one-fourth of the mares bred each year are bred to jacks. If Missouri, Kentucky, Kansas, Nebraska and other leading mule producing states depended upon the mares raised within their boundaries, they would be forced to cease raising mules in a few years. Mule production has doubtless been a potent factor in holding the horse market at its present high level. Late each winter and spring the buyers of mares by farmers who are mule raisers is an important feature of the Kansas City horse market.

The southern cotton states are the greatest users of mules, and about 65 per cent of the entire supply of the country is owned by them. Missouri, Kansas, Oklahoma, Nebraska and Kentucky are the principal surplus mule states.

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SILAGE FOR SHEEP

Used Judiciously Silage Makes Valuable Addition to Sheep Ration—By Ellis Rail, University of Nebraska

WITH the tremendous increase in the use of silos for utilizing a larger amount of the corn plant and the greater use of silage generally during the last two or three years, there has arisen a great deal of inquiry, especially during the present winter as to the value of silage for sheep. Recently silage has come into general use on cattle farms. Now that its value as a cattle food, from the standpoint of cheapness, is becoming more and more apparent, the man who owns sheep is beginning to ask why he cannot share in a good thing too.

Unfortunately the use of silage for sheep feeding purposes has been tried out to a limited extent. Few farmers have used it and the experiment stations have done little. From all sources of investigation it seems now that there is no reason why silage shall not find a permanent place in the list of desirable and economical foodstuffs for sheep. The writer has met several men this winter who have used it with satisfactory results, and one man especially, who had fed out quite a string of sheep with silage almost as the sole feed, was very enthusiastic in his appreciation of it. We have not found any men who have had trouble from feeding it.

There has been a popular conception that silage is more or less dangerous to feed to sheep, especially breeding ewes. It was thought that it had a weakening effect on the lambs, also that there is likely to be some mortality among the ewes. Such ideas do not seem to be well founded. It is true that such results have been noted in flocks which had silage, but careful observations show that other factors may have had more to do with the results than the silage. At the Nebraska Station three years ago the ewe flock had considerable silage, in fact all they cared for. Also, the lambs were not as strong at birth as they ought to have been, and some loss was experienced at lambing time. But an excessive amount was allowed and ewes were entirely too closely confined without adequate exercise. Exer-

cise is an absolute necessity for pregnant ewes if satisfactory results are to be had at lambing time. Lack of an experienced shepherd to handle these ewes at lambing time doubtless contributed to the loss. Since that year we have had no bad results.

Back in the fall of 1907 the Indiana Station began to experiment with silage for feeding pregnant ewes. One lot of ewes was fed silage along with clover hay and grain, while another lot was fed more hay, slightly more grain, but no silage. These two lots of ewes were as nearly alike as could be had. The next year practically the same experiment was repeated, and again in 1909. During the first year a limited amount of silage was fed. The second year, four pounds per head, per day, was allowed and as no bad results accompanied this liberal feeding the last year the ewes were given all they would clean up which was practically 4.6 pounds. With all they wished of the silage, no deleterious results were observed either in the ewes or in the lambs.

As to results from these three years' experiments, the authors of the bulletin

concerning this experiment say that the general thrift and appetite of the silage ewes was superior to that of the lots fed hay and grain alone. The ewes, having a quantity of silage, made each year a larger gain over winter than did those on dry feed. The latter averaged for the three years a gain of six pounds while the silage ewes gained 13.75 pounds or more than twice as much. Yet the writers state definitely that this gain was not mere fat like corn feeding would produce but that the ewes were in good condition to produce strong, vigorous lambs. It was a noticeable fact that right straight through the whole three years the lambs from the ewes having the succulent feed, i. e., silage, averaged nearly ten per cent larger at birth. As to the cost of the feed, the ration including silage proved the more economical, while more satisfactory results were obtained. The lambs from these two lots of ewes were all fed out for an early market and those from each lot did equally well, gaining nearly a half pound per day until they were sold.

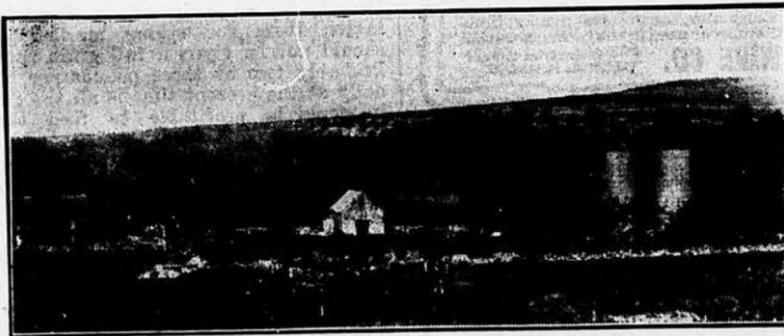
The general results of this test running for three years show definitely that the use of silage for ewes, even in large amounts, will not interfere with the health and thrift of the pregnant ewe nor of her prospective lamb. Also, the succulence which the silage affords seemed to promote the thrift and general health of the ewe and because of the

added health and vigor the unborn lambs were better nourished with the consequent result that larger lambs were produced. Furthermore the producing of all these satisfactory results did not affect the lambs unfavorably and the silage ration was more economical.

Accurate data regarding the value of silage in a ration for fattening sheep and lambs is scarce, but what there is indicates that it is useful. As far back as the early nineties the Michigan Experiment Station fed some lambs on silage and other foodstuffs. The gist of their findings is to the effect that a mixture of fodders composed largely of a good quality of silage proved a cheap and successful ration for fattening lambs.

The Iowa Station at Ames made some comparative tests of dry hays, roots and silage as roughness in 1906 and 1907. In lots fed the first winter the silage cheapened the ration considerably. During the second winter the various lots were fed for a long period, 168 days, and the silage lot refused to eat much silage. They ate almost as much grain and hay as the other lot did and the gain on these silage lambs was more expensive than was that with some of the other food combinations. But the average of the two years was favorable to the use of silage as a means of cheapening the ration. The lambs from all lots finished into market toppers, but the dressed carcasses showed the silage lambs a little superior on the hook. Taking these few experiments then into consideration, and also the general results which various feeders have obtained in practical work, it seems that silage has an important place among desirable and economical feeds for fattening sheep.

It is my opinion that silage can be fed to sheep with satisfactory results. The use of moldy or frozen silage may cause trouble, but good, clean, bright silage can be used with excellent results, either as a succulent food for breeding ewes in winter or as a cheap but satisfactory and efficient roughage for fattening sheep and lambs. This opinion is based partially on observations of flocks which have been fed, and partially on the experiments quoted above. The results to date point toward silage as a cheap and valuable feed for sheep.



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Sorghums Safe and Sure.

The growing of wheat in western Kansas has been a gambling proposition. Those who have been playing with fortune in their wheat growing operations are always hopeful that the luck will turn and it will be their next turn to secure a bumper crop. To many the luck has always seemed to go the wrong way.

The "wheat king" of Kansas, who one season had out 17,000 acres of wheat, had one big year. Season after season he continued to bet every available dollar that the weather would favor a big wheat crop the next year. This year when it would seem the indications are more favorable for a record breaking crop than they have ever been in the past, our wheat king has out only 900 acres. To one who has lost out in his game with fortune for many years this may seem like hard luck.

The safer and surer method is the better one to adopt after all, and some of our biggest wheat farmers of the West have come to the conclusion that a more certain system of farming can be worked out involving the use of the forage crops which are far more sure of producing normal yields year in and year out than the wheat crop.

The statistics from the State Board of Agriculture in which the acre yields of the various sorghums are given for a good many years show that these crops have produced average yields, which in the form of silage would have been worth from \$10 to \$14 per acre. The average gross returns from wheat through these same counties for a long period of years has ranged from \$3 to \$4 per acre. These figures show that a greater use of the sorghums, which by nature are so well adapted to the western third of our state, will give a far more dependable system of farming than where all the energies are devoted to the production of wheat.

Ration for Fall Pigs.

One of our Brown County subscribers, E. E. H., writes to us for advice in the matter of feeding some fall pigs which he plans to carry through the winter and place on alfalfa pasture in the spring, his plan being to finish for the September market. These pigs now weigh about 70 pounds. Corn costs 72 cents per bushel, tankage \$2.60 per hundredweight, and shorts \$1.35 per hundredweight.

Since the corn can be ground, we would advise the use of a mixture containing 60 pounds of corn meal, 30 pounds of shorts, and 10 pounds of tankage. We would also advise keeping good alfalfa hay before these pigs all the time. Since it is not desired to fatten them for spring market they should not be given a full grain ration. Probably two or three pounds per head daily at the present time is all the grain it would be profitable to feed them. During the cold weather it would be very desirable, if convenient to do so, to use warm water in mixing up their feed. Hogs as a rule do not consume a sufficient amount of water during the winter season to give the best results, and the use of warm water in mixing the feed will add to its palatability and increase consumption of water.

When the alfalfa pasture comes in the spring the pigs will require even a less amount of grain in proportion to the size of the pigs than during the wintering period. Probably a grain ration not exceeding 2 per cent of their live weight

will be all that it will be desirable to feed them during the summer period. The amount of tankage in the mixture likewise should be reduced, since the shoats on green alfalfa pasture will require less digestible protein to balance the ration than during the winter feeding period.

Summer Silage.

The dairyman with restricted and high priced land has often been compelled of necessity to make use of soiling crops as the only means of feeding his cows successfully during the summer season. By the soiling method an acre often returns as much feed value as from three to nine acres of pasture. The chief argument against the soiling crops is the amount of labor required each day to cut and haul the crop to the barn or feeding lot.

Many of our dairymen are becoming interested in the use of silage as a summer crop. The silage practically takes the place of pasture or the soiling crop cut and fed fresh each day. It has been well established that silage may be stored and fed during the summer season.

The silo for summer feeding would necessarily only be a smaller one than would be required to feed a similar number of cows during the winter season. A thicker layer of silage must be removed from the silo each day during warm weather than is necessary in the winter time. A thirty or forty-ton silo would hold enough silage for 10 cows through the summer season.

Even those having pasture find that during a portion of the summer there are always sure to be spells of hot, dry weather when little can be expected from the pastures. A small silo filled with silage would help out wonderfully during such periods. Some of our Kansas dairymen have already tried the feeding of silage during the summer season and are well pleased with the results.

C. O. Pennock of Oklahoma, who already had a 14 by 28-foot silo which he had used for winter feeding, came very near being persuaded to buy an automobile, but on the suggestion of his wife that, owing to the shortage of their pasture, a summer silo was badly needed, he turned down the auto salesman and put up a 10 by 28 silo for summer feeding. Mr. Pennock writes as follows regarding his experiences: "I bought my 14 by 28 silo in 1912. The results I received from it were more than satisfactory. Not having much grass on my farm, I felt the need of a silo for summer feeding. I put up a 10 by 28 for this purpose and do not regret the investment. The auto will come later. Last winter I had milk cows that were so well conditioned that they would have brought \$100 per head and were milked every day. They received nothing but silage and alfalfa."

The summer silo can be just as effectively used in feeding stock cattle during an emergency period. On many farms enough feed went to waste last year to have made it possible if it had been preserved in the silo to have carried over cattle which had been rushed to market during the past summer.

Silage Feeding in Pennsylvania.

The Experiment Station of Pennsylvania has just reported in its Bulletin No. 124 the results of its last experiment in the feeding and finishing of beef steers for market. This station for a number of years has been conducting careful tests on the feeding value of silage in the fattening ration. The results from time to time have been reported in bulletins and much valuable data has been available for the use of those interested in finishing beef for the market.

In this last test the principal object was to determine whether the use of silage alone as the roughage ration gives more profitable results than where mixed hay having a value of \$12 per ton is added. The steers used were two-year-old cattle of beef breeding, and 12 steers were used in each of the two lots. The experiment covered a period of 140 days. During the first four weeks of the test the steers receiving silage alone consumed daily an average of 44.0 pounds and in addition 2.18 pounds daily of cottonseed meal. No corn was introd-



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duced into the ration until the ninth week. During the last four weeks of the feeding test this lot of steers consumed an average daily ration of 20.73 pounds of silage, 3.16 pounds of cottonseed meal, 11.14 pounds of shelled corn. The average daily ration per steer for the whole period of 140 days was 32.23 pounds of corn silage, 2.87 pounds of cottonseed meal, 2.12 pounds of ear corn, and 4.48 pounds of shelled corn. The other lot consumed during the first four weeks period a ration consisting of 19 pounds daily of silage, 10.29 pounds of mixed hay, and 2.18 pounds of cottonseed meal. Corn was added to the ration of this lot earlier than in the lot receiving silage alone. During the last four weeks of the test this lot consumed an average of 19 pounds of silage per steer daily, 3.77 pounds of mixed hay, 3.16 pounds of cottonseed meal, and 9.28 pounds of shelled corn. The average ration consumed per steer daily for the whole period of 140 days in this lot was 19.5 pounds of corn silage, 6.6 pounds of mixed hay, 2.86 pounds of cottonseed meal, 2.27 pounds of ear corn, and 4.9 pounds of shelled corn.

In calculating the results of this experiment the price of \$3.50 per ton was placed upon the silage, \$12 on the mixed hay, corn at 55 cents per bushel, and cottonseed meal at \$31 per ton.

The results of this feeding test, even though conducted in Pennsylvania, cannot help but be of interest to the cattle feeders of this state. The following conclusions are drawn from the results of this test by the authors of the bulletin:

1. Corn silage at \$3.50 per ton is more economical as a sole roughage for feeding steers than a combination of silage and mixed hay when hay is valued at \$12 per ton.

2. Corn silage was found more palatable for fattening steers than ear corn, which made it necessary to limit the amount of silage in the ration in order to insure the greatest gain in flesh during the finishing period.

3. After paying farm prices for other feeds consumed, as mentioned above, the steers in Lot 1 (silage as a sole roughage) returned \$1.469 per bushel of corn. Lot 2 (silage and mixed hay as the sole roughage) returned \$1.308 per bushel.

4. The margin necessary between the buying and selling prices in Lot 1 was 57 cents and in Lot 2 71 cents per hundred pounds live weight.

5. Steers returned \$2.23 more per head for feed consumed when followed by hogs in the feed lot.

6. Net profits received from experimental feeding cattle under Pennsylvania conditions, not including pork produced, during the winter of 1912-1913 ranged from \$11.224 per head for Lot 2 to \$14.095 per head for Lot 1.

Horton Farmers Progressive.

The associate editor of KANSAS FARMER was in attendance recently at the annual meeting of the Horton Farmers' Institute. One of the first things the editor was called upon to do while in attendance at this meeting was to give a talk in the streets on the subject "How to See a Good Animal." Good specimens of horses and cattle were available for illustrations in this talk. Never at any previous visit which the editor has made to this place was so much interest observed in live stock as was taken at this time. Only an hour was available for this open air discussion and at its close the president of the institute had considerable trouble in getting the crowd to drop the subject of the judging of live stock and go to the hall where the rest of the program was to take place.

Some splendid papers and talks were given later in this hall. The great interest taken in the live stock subjects was a special feature of the program. Fully 150 farmers were in attendance. Addresses were given by H. F. Erdley on the general subject of dairying. H. B. Walter of Effingham and R. T. Johnson of Horton, gave some splendid discussions on the subject "Why Do We Lose Our Hogs?" Later Albert Duff, one of the successful beef cattle men of Brown County, gave some very interesting figures on the cost of raising a calf on the farm.

There seems to be a great revival of interest in the use of live stock on the farm through this section of Brown County and the editor feels justified in saying that this meeting at Horton was the best institute meeting at this place he ever attended. This organization has had two splendid officers during the past two years in J. E. Jones and R. P. Waller. Both of these men have spent a great deal of time in the interest of the meeting.

During one of the intervals between numbers on the program Mr. Jones, the president, read off rapidly a list of articles such as wheat, corn, live stock,



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etc., which was for sale by various members of the institute. This is a feature of a meeting of this kind which we have never observed before. It is a most commendable one and might well be carried out extensively by other similar organizations. We remember being present a year or two ago at a farmers' institute meeting where a man very timidly asked the chairman if he would be considered out of order if he mentioned the fact that a high class, purebred Holstein bull which he and two of his neighbors owned jointly, could no longer be used by them and would be sold at a bargain.

Age of Cattle.

The calf when born has two pair of incisors, the other two pair appear during the first month. When a calf is eighteen months old it loses the middle pair of milk incisors, and grows a permanent pair. The next pair, one on each side, is replaced at twenty-seven months of age, the third pair at thirty-six months of age, the fourth or outside pair at forty-five months. The time of appearance of these incisors varies within rather narrow limits, so that we are able to tell the age of young cattle fairly accurately.

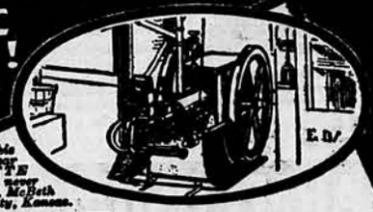
The calf also has a temporary set of molars which are later replaced with permanent ones, but they are not considered in estimating the age of the animal.—G. E. MORRIS, Ft. Collins, Colo.

In districts where the dry weather damaged the crops to an extent that has demanded economy in the feed the farmers' institutes have taken up the discussion of these topics. The best method of wintering the various kinds of stock is co-operation of communities of farmers in getting wholesale rates on commercial feeds, oil meal, cotton seed meal, bran, etc.

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LIVE STOCK

Moving Stock to Missouri.

Our subscriber, H. L. Y., Marshall County, Kansas, writes that he is moving to Missouri and wishes information as to the regulations in force concerning the shipment of horses and cattle to that state from Kansas. He wishes to take six horses and two cows with him. The state of Missouri requires that a health certificate showing freedom from all contagious, infectious and communicable diseases accompany the horses. A similar certificate must accompany dairy and breeding cattle, including the tuberculin test. Inspectors of the Bureau of Animal Industry may inspect this stock, or veterinarians or inspectors having commissions from the State Live Stock Sanitary Commissioner may do so. Our subscriber should communicate with the Live Stock Sanitary Commissioner at Topeka, Kan., relative to the inspection of these animals before shipment.

Sleeping Quarters For Hogs.

There is no season of the year in which such careful attention should be given to cleanliness of the hog's sleeping quarters as during the winter. Oftentimes hogs are allowed to sleep all winter long in sheds or other sleeping quarters which are not cleaned out during the whole season. In order to keep hogs thoroughly healthy such sleeping quarters should be cleaned out at least once a week. The sheds and houses should be carefully disinfected after cleaning and supplied with fresh bedding.

A mangy, lousy hog is not a healthy hog and the dust and filth accumulating in the shed which is left uncleaned supplies ideal conditions for the development of vermin and disease of the skin. The eggs of various internal parasites and lice are found in large numbers in the dust and filth of the sleeping quarters which are left uncleaned and without being disinfected, as a result these parasites increase rapidly and spread through the whole herd.

Wheat and Cotton Seed Meal for Fattening Steers.

Our subscriber, C. D. of Arapahoe, County, Colorado, is fed out a carload of steers on silage and wheat straw for roughage and wheat and cotton seed meal for grain. He inquires as to how much concentrated feed it is advisable to feed daily in order to get the most profitable results.

In finishing cattle for market considerable grain is required. Steers cannot consume enough of the ordinary roughage to lay on much fat. While corn is generally considered almost indispensable in finishing stock for market, wheat can be used very satisfactorily as a substitute. Owing to the fact that the grains of wheat are small and hard it is necessary to grind it in order to secure the best results.

Prices are not quoted on either the wheat or the cotton seed meal but on the assumption that the prices are about the same as prevail in other sections, we would advise that a grain ration consisting of about four pounds of ground wheat to one of cotton seed-meal be used. This grain ration should be fed with the silage if possible. Wheat and cottonseed meal makes a very concentrated ration and by combining it with the silage it will be so mingled with the roughage as to insure more perfect digestion than where such concentrated grain is fed alone. The steers of course should be started on grain very carefully, gradually increasing the amount until they are receiving from 12 to 15 pounds per 1,000 weight of steer, daily. In all probability this is as heavy a grain ration as it will be desirable to feed. Of course as the grain ration is increased the steers will consume less roughage.

Neighborhood Meat Club.

Woodson McCoy, of the Woodsonia Stock Farm, Johnson County, believes in neighborhood co-operation. The beef club is one of the easy ways to secure some excellent results along this line, and Mr. McCoy writes us as follows concerning the successful operation of such a club in his home neighborhood:

"To those who wish to foster a kindly

and neighborly spirit in their community and practice a fine economy in the matter of a fresh meat supply for the farm table there is nothing more beneficial than the formation of a beef club, among neighbors, whereby a nice home-killed beef can be slaughtered and divided out among two or more (preferably four) families. Where two men form the club each man can take a front and hind quarter, thereby dividing it equally. Where four men are in the club, let them draw lots to decide which quarter they get when the first beef is killed and divided up. The hind quarters being the best, it should be arranged that those drawing hind quarters when the first beef was killed should take fore quarters at the second killing, thereby evening up fairly in dividing the meat where only two beeves are killed with four men in the club. By this plan a fine quality of beef can be kept constantly on hand from the time the first big white killing frost comes in the fall until spring arrives.

"Choose nice light heifers or steers weighing around 600 to 700 pounds, live weight. A heifer weighing say 700 pounds and costing 6 cents on the hoof and fairly fat should kill out to about 56 per cent of her live weight in dressed beef, or 392 pounds; subtracting the value of her green hide—about 60 pounds, worth about 12 cents per pound, \$7.20—from her original live weight cost of \$42, would leave a net cost of \$34.80 for 392 pounds of dressed meat, a fraction over 8 cents per pound.

"Now, after getting your quarter of beef, don't let it lay around on some boards in any kind of a room or smoke house, and don't cut up and salt away for fear it will spoil or get tainted, but secure a handy light block and tackle large enough for a half-inch rope and swing your quarter of beef high and dry in some tree near by the kitchen door where it can get plenty of fresh air. When you want a steak, roast or boiling piece, have a good meat saw and sharp knife ready; let the quarters down on block or box located just under the beef, cut off what you want and draw up again into the tree. Now don't get scared for fear that the meat will spoil. It will surprise one who has not tried it to find how long it will keep in ordinary winter weather, and it has a juiciness and flavor that no packing house meat has.

"Last winter a hind quarter of a 650-pound heifer hung in a maple tree in our back yard about 75 days. The last steak we cut from it was as tender and sweet as the first. It had frozen and thawed out again several times, but had not deteriorated in quality. If birds or flies bother it, a covering made of wire fly screen or thin domestic cloth will protect it."

COMING OF THE SILO

(Continued from Page Four.)

New conditions have confronted our people and here certainly is one. The cost of stock food in the past few years has steadily grown higher. Grain and hay have now reached a price where it is difficult, under farm conditions, to derive a profit by the old method of feeding. The silo, however, offers an opportunity to not only cope with the situation but actually to produce our stock and stock products lower than we did in the days of cheap hay and grain. So the time has come when the prosperous man must take up a new method in order to meet the present conditions and those who build silos will find the truth of the statement that "The silo is now the solution of the stock industry."—H. R. SMITH, University of Minnesota.

The average forage produced per year by the various sorghum crops of Graham County during the years 1893 to 1911 would have been worth at the rate of \$11.72 per acre if they had all been saved in the form of silage. This is placing a value of only \$1.80 per ton on silage. The winter wheat produced in this country produced average gross returns during this same period of only \$6.34 per acre.



Barren Cows Are Not Profitable Cows

Barrenness in cows can be cured. Hundreds of cows are sold to the butcher at their meat value, when sensible treatment would make them pay big dividends on their milk value. The milk producer is the only kind of cow worth having—and a barren cow cannot permanently be a good milk producer.

If you have a barren cow, buy a 50c package of KOW-KURE, the great cow medicine. KOW-KURE works on the genital organs, toning them up and making them perform their proper functions. KOW-KURE is also an unfailing cure for such troubles as Abortion, Retained Afterbirth, Bunches, Milk Fever, Scouring, Red Water and Lost Appetite.

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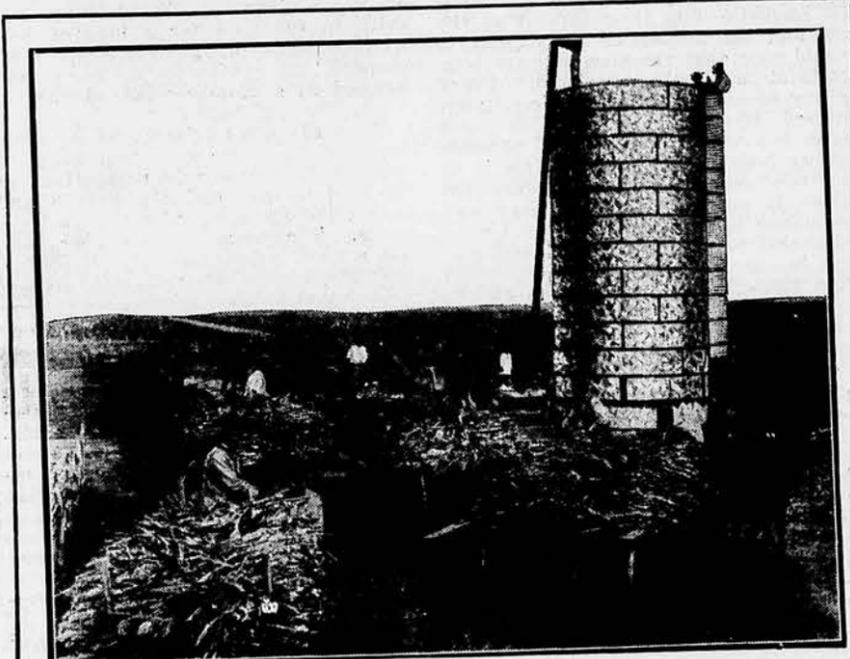
Sorghum Crops Make Good Silage. Yield Per Acre Factor to Determine Which Crop to Grow

SORGHUM crops, both the saccharine and non-saccharine, can be used for silage with good results. The corn plant has considerable prestige as a silage crop, and it has been more generally used for this purpose than any other crop. In fact, its use has become so general that some of the farmers and stockmen have believed that it was the only crop fit to be used for silage.

The dairy department of the Kansas Agricultural College planned to experiment two years ago to determine the value of sorghums for silage. In most parts of Kansas the yield of the sorghums, such as kafir and sweet sorghum, is a great deal larger than that of corn, and some seasons the yield is several times larger than corn. It was thought that if these crops could be made into silage, they would be of particular advantage to the farmers and stockmen of western Kansas, where they have difficulty in getting a crop of corn. The findings of these experiments were reported in circular No. 28 from the Kansas Experiment Station. The result showed both kafir and cane silage to

farmer, but in Kansas the sorghums usually outyield corn from a roughage standpoint. In order to determine the relative production of corn, kafir and sweet sorghum an experiment comparing the yield of silage produced by these crops was started by the agronomy department several years ago.

A test in 1912 comprised forty-seven plots of one-twentieth acre each. All crops were planted in forty-two-inch rows and well cultivated. The test was conducted on rich second bottom land, well supplied with moisture, which accounts for the large yields obtained. The soil was well adapted to corn, thus it is safe to assume that on less favorable soil corn would have made even a poorer comparative showing. The crops planted May 15 produced the following yields: Kansas Orange sorghum, 24 tons; kafir, 18 tons; corn, 5 tons green fodder an acre, while the same crops planted May 25 produced the following results: Kansas Orange sorghum, 23 tons; kafir, 17 tons; corn, 15 tons. The corn made only two-thirds as great a green yield as the Orange sorghum and



KAFIR HANDLES EASILY IN HARVESTING AND IN NO OTHER WAY CAN IT BE MORE EFFECTIVELY USED THAN AS SILAGE.

be only slightly inferior to corn silage for milk production.

Last winter experiments were conducted in wintering calves at the Kansas Experiment Station. The experiment showed these things, briefly: That kafir silage and cotton seed meal returned the largest profit in calf feeding; that sweet sorghum silage and cotton seed meal was next in profit making value, and, finally, that kafir and sorghum, which will live through almost any kind of year when corn and other things wither and die, will make excellent silage for winter feeding. Added to this is the fact that even after the corn has failed, kafir and sorghum will still thrive mightily and make good silage. It is indeed the farmers' feed insurance. In the experiment just ended it cost \$2.66 to produce a ton of kafir and cane silage. Corn silage cost \$3 a ton to produce. These calves were carried through the winter gaining at the rate of 1 1/2 pounds daily per calf at a cost of less than 4 cents per pound of increase. Similar results were secured in wintering cows at the Hays Station, using kafir silage, wheat straw and a pound per head, daily, of cotton seed meal. It cost less than 5 cents per day to feed these cows. All of which means that farmers in parts often made desolate by untoward fate, otherwise restricted precipitation, may take heart and achieve success by growing kafir and sorghums, and feeding cattle.

A ton of kafir or sweet sorghum silage produced about the same quantity of milk or as much gain in live weight as a ton of corn silage. Since these crops when placed in the silo are of equal feeding value the factor that should determine the crop to grow for silage is economy of production.

Corn has been considered the best silage crop, especially for the corn belt

only eight-ninths as large a yield as the kafir.

The test was planted rather late for corn, but it will be noted that the latest date, May 25, gave the best grain crop and the largest yield of dry fodder. Corn was planted both May 15 and May 25, at three thicknesses, 12 inches, 16 inches and 20 inches. On both these dates the corn planted at a distance of 20 inches apart produced the largest quantity of silage.

With the sorghums the earliest planting made the largest green yields. It should be noted, however, that the later plantings of sweet sorghum were only a little poorer in yield than the earlier plantings. In a cold, damp May it is probable that May 15 is too early for planting these crops.

While kafir is ordinarily planted for seed production at the rate of about four to eight pounds of seed an acre, this test indicates that a heavier rate of planting is best for silage. Those plots seeded just thickly enough that the size of the stalk was not reduced much by crowding produced the best silage. This necessitates the use of about a peck of seed an acre. If the seed is good, not much more than that is needed, although the use of one-half bushel of seed to the acre gave an increased yield of both green and dry fodder on this rather rich field.

It is evident from this test, and from other tests conducted at this and other experiment stations, that the sweet sorghums will produce a greater amount of silage than kafir or corn. Since the feeding tests indicate that the silage produced from the sweet sorghums is just as valuable for feeding purposes as corn silage, it follows that this crop could be grown profitably for silage to a greater extent than it is grown at present in Kansas.



The Secret of Making Profit out of Stock

GILBERT HESS, Dr. of Veterinary Science Dr. of Medicine

I want all you farmers to get this fact riveted in your mind regarding stock—that the only animals that are paying you a profit are those that are digesting their feed—bowels regular every day and absolutely free from worms. And it is just at this very time of year when stock are not in that condition, because they are cooped up, deprived of exercise and for the last few months have been on dry feed, which does not contain the laxatives and tonics so abundantly supplied by grass.

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WHEN it comes to a choice of separators De Laval superiority is now universally recognized. Those who "know" buy the De Laval to begin with. Those who don't "know" replace their other separator with a De Laval later—thousands of users do that every year. If you already have some other machine the sooner you exchange it for a De Laval the better.

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DAIRY



The doubt of any farm dairyman as to the value of silage as a part of the milk cow's ration would have been removed had he attended the meeting of the Kansas State Dairy Association, held during the state farmers' institute last week at Manhattan. Every farmer has confidence in the experience of his neighbors. Such experience usually confirms the experience of the experiment stations, the writers of agricultural papers, particularly since in these days the experiment station trials are of a more practical character and since the agricultural editor of the present day is able to apply the precepts of the experiment station work and of individuals here and there to the practice of the reader. "The proof of the pudding is in the eating"; the proof of the value of silage for milk cows is in the feeding. When feeding experiences are given by those farm dairymen who are not interested in the sale of silos further than that the dairy interest may be advanced, are unqualified in their support of the silo and the feeding of silage, then it would seem that the man who has been doubtful would be convinced. Every milker of cows who at this meeting expressed himself, said that his cows never before had done so well as since he has been feeding silage. This is so for two reasons: First, because the silage is superior in palatability and succulence to any other roughage he has been able to use in the feed, and second, because the silo supplies more feed than through any other means, and so as a result of the silo the cows are better fed.

ing that he has plenty of feed—and having that feed handy—he will begin using it a month or six weeks in advance of the time he would begin hauling corn fodder, kafir or cane roughage from the fields. This has the effect of keeping up the milk flow and a considerable part of which is usually lost before feeding begins. Moreover, the silage being more palatable, and so more readily eaten by the cow than dry feed, she will eat it freely before she would begin eating dry feed. The fact, too, that it is unnecessary to hitch up a team and face a severe storm in hauling feed from the field; will result in more liberal and more regular feeding, and this is to the advantage of the man who has a silo. This advantage in itself warrants the construction of a silo. This is a condition existing on farms having silos, which is much appreciated. The farm boy to no greater extent than his Dad, has a hankering to hitch up the team every morning, including Sunday, and drive to the field for a load of feed which must be dragged out of the mud, chopped out of the ice or snow, and handled in a 25-mile wind, maybe.

While silage is an almost indispensable feed for the economical production of milk, it is done the less important in the maintenance and the growth and indeed the fattening of other kinds of cattle. The feeder for beef has been for several years the largest Kansas user of the silo. He recognized its advantages in advance of that recognition by the cow-milking farmer. It was logical, too, that this be so, because the beef feeder has been compelled to count the cost of producing beef. The farm dairyman has not been so much interested in producing butter fat at a profit. The feeding for beef has been a business which required close calculation or resulted in financial disaster to the man who followed it. Not so with the farm dairyman in his business. Yet we do not believe that for the small farmer there is any comparison between the profit to be made from producing abundant butter fat economically and the production of beef. The farm dairyman can afford to consider the silo in the light of the best judgment of the beef feeder. In other words, if the beef feeder finds the use of silage economical and profitable, then this should be sufficient hint that the farm dairyman will find it profitable. However, the farm dairyman should not conclude that silage is less valuable for his calves, his horses and mules, or his sheep, than for the milk cow. Even the hogs and the chickens relish and thrive on a bit of silage daily.

There were men who gave their experience in the meeting above named who are keeping cows for milk and on whose farms there is not one foot of any kind of pasture and who use no pasture except that supplied by wheat or rye sown for pasture. Thousands of farmers in Kansas are deprecating the fact that they have no pasture, and for this reason cannot profitably keep live stock. There are hundreds of such men who would engage in the milking of a few cows if the pasture bugaboo could be removed. The silo is the solution of such farmers' pasture problems and is the hope for such farmers in profitable cow-milking. Those farmers without pasture are those situated outside the tame grass-growing sections of Kansas and for which sections no grass has yet been found which will take the place of the native grasses. The silo filled for summer feeding gives such farmers a chance to milk a few cows with results, we believe, for a ten-year period, equal if not exceeding the results obtained even from average good wild grass pasture. The use of the summer silo on farms where there is no pasture, is not experimental, and there need be no hesitancy in the use of the summer silo. As a dependable feed for the milk cow, the wild grass pasture is none too valuable anyway. The feeding from a silo in summer time involves little labor as compared with soiling; that is, cutting green crops for feed. There is no more economical method of feeding in so far as handling is concerned, than from the silo. It is doubtful, too, if land can be put to any more economical

There is no question but that silage is the premier of all cow feeds. It has long been considered by farm dairymen who are anxious to obtain the largest flow of milk and to at the same time obtain that flow economically, that silage is near indispensable. Those farmers in Kansas who are so fortunate as to be able to supply the milk cow with all the good alfalfa hay she can consume, need the silo less than do those who have no alfalfa. However, the alfalfa-growing farmer can save money if he displaces a part of his alfalfa hay with silage and so has a surplus of alfalfa to sell on the markets. Silage, whether it be corn, kafir or cane, has a palatability and a succulence which other feeds do not possess and which are absolutely essential in making up a suitable ration for the milking cow. The cow will not tire of silage as she will of other feeds. The cow will eat silage the year around if she has opportunity. Next to an abundance of fine quality of alfalfa hay, we know of no feed so palatable as silage. The fact that silage will grow abundantly on every farm in Kansas is important. In fact, this is sufficient in itself to warrant the construction of a silo on every farm. It is well known that silage can be grown wherever the sorghums can be grown, and it has been demonstrated that the sorghums will grow and produce their forage in profitable quantities on practically every quarter section of land in Kansas. To be sure, there will be years when the production is shorter than other years, but the silo saves all the feed in the best possible condition, prevents loss from late fall rains and winter snows. These are essential points in connection with the short year. The fact that in other years the sorghums produce abundantly, and far in excess of the needs of the farmer, this surplus can be carried over from year to year. Thus aside from the superior feeding quality of the roughage when placed in the silo, the structure makes it feasible and easy to provide feed for the short year by carrying it over from the year of surplus production.

The fact is that the cow can produce milk only from the feed she consumes. She will first take care of her bodily needs. Such feed as she gets in excess of this will produce milk. The trouble with most of our Kansas feeding is that the milk cow does not have a sufficient surplus of feed to enable her to produce milk to her capacity. The silo will result in more liberal feeding. The wise farmer will build a larger silo than he really needs and he will fill it. Realiz-

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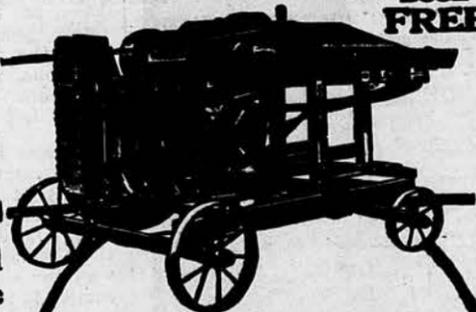
The famous doors—the sturdy construction—and the time and work saved make Hinge-Door Silos the first choice of all stock feeders.

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Last year thousands of men put up this silo. This year there will be thousands more. Will you be one of them? Get our book, anyway; we can help fatten your purse if you are feeding stock of any kind. Address Dept. 21.

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Famous for many years for its big capacity on low power and for its ability to cut any forage crop.

Write for Book

use than in growing feed to be put into a silo. The reader can figure for himself and to his own satisfaction the relative economy of growing an average of four or five tons of silage per acre, as compared with the grass which would grow on that land and the acreage needed to keep a single animal.

The use of the silo will increase the live stock carrying capacity of every farm in Kansas 100 per cent in most cases, and much more than this in many cases. There is a time when land becomes too valuable for pasture. When that time arrives the silo is a necessity. On those farms on which there is no grass and which will not grow tame pastures, the silo is a necessity. The most permanent farming requires live stock, and if live stock is to be kept on valuable land or on land on which there is no pasture, we see no method by which the silo can be avoided. The above thoughts, while not at all new or unfamiliar to us, or to the readers of KANSAS FARMER, were voiced by members of the dairy association and which gentlemen were not creamerymen nor silo salesmen, nor in any other way interested in the increased sale of silos.

What Is Speed of Your Separator?

Much interest was aroused at the National Dairy Show, Chicago, in a contest in which hundreds of farmers and their sons tried their skill at turning a cream separator to which was attached a speedometer. The little speed recording device was kept covered until the operator thought he had attained the speed at which he runs his separator in skimming milk at home. It is well known that each make of cream separator has a speed at which it does its best work and the manufacturer of which separator says that the machine should be turned 45, 50, or 55 revolutions of the crank per minute. Those entering the contest were required to state the speed at which they endeavored to turn their machines. The machine used in the contest was turned by them until they thought that speed had been obtained, then the speedometer was exposed to view and showed the actual speed at which the machine was turned. Here are some of the results:

Contestant's Machine at Home—No Indicator Used.	Speed of Contestant.	Speed at Which He Turned Separator, Using Indicator.
A.....	60 R. P. M.	43 R. P. M.
B.....	45 R. P. M.	35 R. P. M.
C.....	60 R. P. M.	40 R. P. M.
D.....	60 R. P. M.	48 R. P. M.
E.....	60 R. P. M.	50 R. P. M.

F.....60 R. P. M. 47 R. P. M.
G.....55 R. P. M. 43 R. P. M.
H.....45 R. P. M. 34 R. P. M.

It will be seen from the above that one contestant who thought he was turning his machine 60 revolutions per minute and whose separator required that number of revolutions, was actually turning 43. Another who thought he was turning 45 revolutions per minute was actually turning 34. It is worthy of note that in no case did the contestant turn his separator as fast as he thought he was turning it or as fast as is required for the machine he owns and operates to do its best work.

This is an important study—so, for the reason that it is proof positive that few hand separators are turned at the speed to which they should be turned in order to effect clean skimming. Each make of cream separator is designed to do its best work at a certain speed. That is the speed to which the manufacturer indicates the machine should be turned. If the machine is not turned to this speed then there is a loss in butter fat. The speedometer will show the speed at which the operator is turning the machine and the operator should increase his speed until the revolutions desired are attained. Steady turning to the required speed cannot be secured with any reasonable degree of certainty unless the operator actually times himself by watch or clock or has a speedometer attached.

The only practical way we have to improve our live stock is by the use of good pure-bred sires. It should need no argument to convince any man that as long as scrub sires are used by farmers the quality of the live stock on our farms will improve slowly, if at all. The undesirable male animal must not be allowed to perpetuate his bad qualities. There is no need that he should; and it is only because farmers do not fully realize the truth of their own assertion that we need better live stock, that they tolerate these scrubs in the land.

Do not forget to provide for the comfort of your live stock of every kind. Get up bedding and see that the stalls for the horses and cattle and the quarters for all other kinds of live stock are well bedded and made comfortable. In this way not only will the stock winter better and on less feed, but a large quantity of manure can be provided for next summer's crops. Manure above all other things is what most of our lands need most.

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We could use cheaper rubber, hasty methods, less care in making "Ball-Band" Footwear for just a few months and pocket a cool million dollars profit. Why don't we do it?

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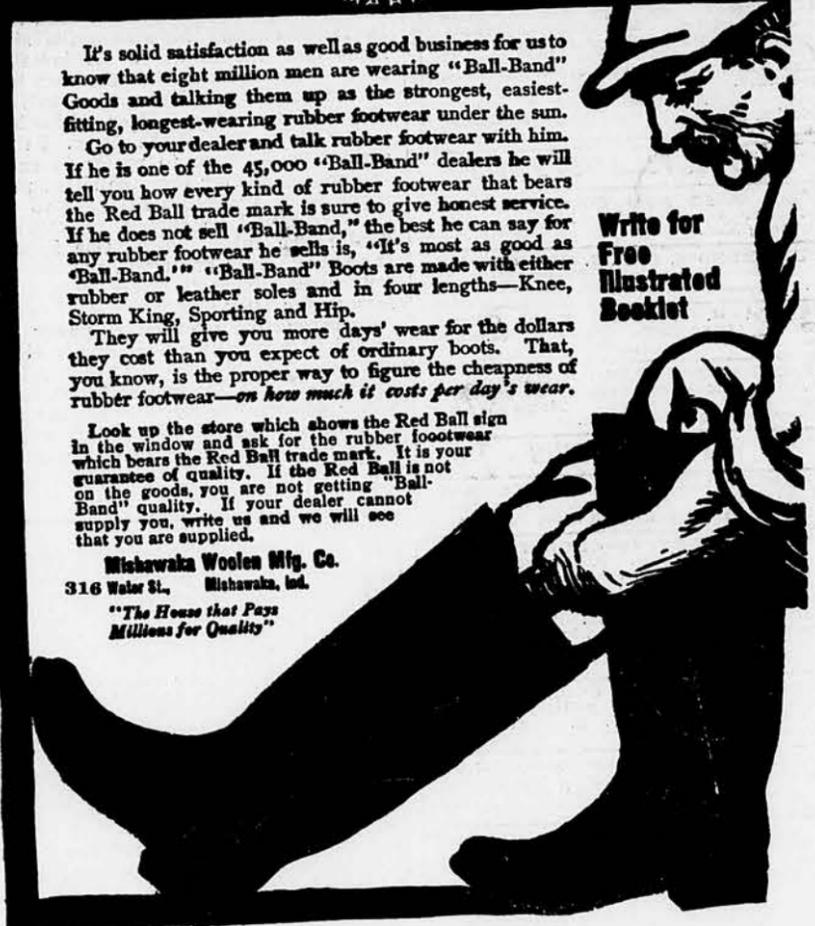
Go to your dealer and talk rubber footwear with him. If he is one of the 45,000 "Ball-Band" dealers he will tell you how every kind of rubber footwear that bears the Red Ball trade mark is sure to give honest service. If he does not sell "Ball-Band," the best he can say for any rubber footwear he sells is, "It's most as good as 'Ball-Band.'" "Ball-Band" Boots are made with either rubber or leather soles and in four lengths—Knee, Storm King, Sporting and Hip.

They will give you more days' wear for the dollars they cost than you expect of ordinary boots. That, you know, is the proper way to figure the cheapness of rubber footwear—on how much it costs per day's wear.

Look up the store which shows the Red Ball sign in the window and ask for the rubber footwear which bears the Red Ball trade mark. It is your guarantee of quality. If the Red Ball is not on the goods, you are not getting "Ball-Band" quality. If your dealer cannot supply you, write us and we will see that you are supplied.

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Again prove their superiority as egg layers in the National Egg-Laying Contest, one White Rock hen laying 281 eggs; 645 hens competing. I have bred White Rocks exclusively for 20 years and have them as good as anybody. Eggs from three high-scoring pens, \$2.00 per 15; \$5.00 per 45, delivered free by parcel post or express. Safe delivery guaranteed. A limited number of eggs from a specially fine mated pen, \$5.00 per 15. You will get what you order, or money refunded.

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WALKER'S STANDARD STRAIN OF S. C. Reds. Stock and eggs. Quality and prices made attractive. Address Walker Poultry Co., Chillicothe, Mo.

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GOOD HEALTHY COCKERELS AND pullets in Silver Wyandottes. Prices reasonable. H. L. Brunner, Newton, Kan.

BUFF WYANDOTTES—CHOICE BREEDING stock at all times. A few good cockerels on hand. Must be taken soon. Wheeler & Wylie, Manhattan, Kan.

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PARTRIDGE WYANDOTTES—GREAT winners at Kansas State Fair, Hutchinson. Stock for sale. Write me. Dr. E. P. Cressler, Peabody, Kan.

WHITE WYANDOTTES, NONE BETTER in state. Have shape and color and great layers. Write your needs. Alford & Talbott, Yards 823 Fourth, Hutchinson, Kan.

POULTRY



See that the chickens have plenty of pure water during cold weather. The water freezes so easily that the fowls often go without anything to drink.

Now is the time to have your out-sprouters in operation. There is no green feed that can be compared to out-sprouts. Feed the chickens all they will eat every day.

While we have always contended for one variety of chickens on a place, we have no objection to trying to raise ducks, geese or turkeys as well as fowls. Like the farmer who raises a variety of crops, the poultryman may succeed with one variety of poultry when he might fail with another.

Success is detrimental many times by the amount of care in attending to the details of the poultry plant. A little leak here, and a little waste there, often bring failure. When one cannot see these things, and they run on in this way for some time, failure is bound to come. It would be better to run a small poultry plant, and do it well than to run a large one and not be able to look after the details.

Remember that on very cold mornings the hens would like a warm breakfast almost as well as yourself. If you do not feed mash, you might warm up some shelled corn in the oven and feed it to them while warm. The drinking water should also be warmed on very cold days. You may say that this is too much trouble, but if you want fresh eggs and plenty of them in the winter, you must go to considerable trouble before you can get them.

Some paint the chicken roosts with kerosene, others with liquid lice killer, but now comes a suggestion of painting them with hot tallow. It is claimed that the tallow will stay on the roosts longer than kerosene and that the latter

is good only as long as the odor lasts. We think the suggestion of tallow a good one, for we all know that grease is fatal to lice. We would add quite a dose of crude carbolic acid to the tallow, which would make it still more effective.

While the hens are confined to their houses, they must have plenty of litter to scratch in, if eggs are expected. The litter used should be clean and free from filth. Some people think that because the chickens like to scratch in the manure piles, that soiled straw from the barn is good for litter. But litter that is too soiled for horses and cows is not fit for poultry. It is a different proposition to have soiled litter in a tight poultry house to that which is out of doors. The best litter that one can use is oat straw, and if not threshed it will be all the better. The hens will do the threshing.

Failure to remove sick birds from the rest of the flock often leads to serious consequences, as the disease is likely to spread through the whole flock. It is better to take away the sick bird as soon as it is discovered. The trouble, whatever it may be, can be treated much better where the bird is alone, and the precaution may save your entire lot of birds. There are some diseases which are easily communicated from one fowl to another, such as colds, roup and chickenpox. If you will look after the sick birds at once, you may stamp out an epidemic which would mean a severe loss to you. If they are removed at once, they can be treated for their trouble, and be where it is quiet and where they will not be disturbed by others. If you will keep one coop for this purpose, and then disinfect it after each occupancy, you will find it will pay you. By doing this you can treat the individual case to advantage and at the same time save the balance of your birds from possible infection.

COST OF SILAGE

IN making a study of the economic phases of the use of silage it might be interesting to study figures and estimates from a number of different sources. In preparing for the study of this question in the work of the school of agriculture at Manhattan, Prof. H. L. Kent, who is principal of that school, compiled figures from a number of different sources showing the cost of producing silage under different conditions. In this summary he makes the statement that the result of his investigations would indicate that the corn binder in the field may be kept one-half day ahead of the silage cutter without injuring the quality of the silage. In fact some farmers seem to prefer to cut in this way, believing that the silage packs better if it is wilted a little. Two corn harvesters will be enough to keep one good silage cutter busy. One instance is cited in which one corn harvester and four men cutting by hand kept a 14-inch cutter busy.

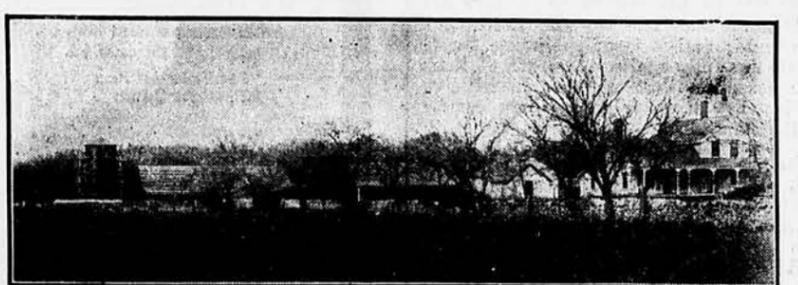
In estimating the horse power required it is usually customary to figure one horse power for each ton per hour of cutting capacity and an extra horse power per ton for the blower. An Illinois farmer reports that in his experiences a 14-inch cutter and blower will fill a 50-ton silo in 10 hours; this being

an average of the work he has done with such a machine. In one instance he was able to fill a 50-ton silo in five hours with this cutter, using a 14-horse power engine. The charge made in that community was 65 cents per hour for the cutter and one man, and 75 cents per hour for a 15-horse power engine and one man. The tendency, however, was to increase the price for the engine and man to \$1.00 per hour.

In getting at the cost of silage a Michigan farmer is quoted who reported the cost of filling a 50-ton silo as follows:

Cutter one day	\$12.50
Eight men, \$1.50 per day	12.00
Four teams, \$3.00	12.00
Total	\$36.50
Five and one-half acres to fill silo. Six men cut and put corn on wagon.	
COST OF HARVESTING FIVE AND ONE-HALF ACRES	
Cutting	\$ 6.25
Husking corn	22.00
Hauling corn to crib	5.00
Hauling fodder	3.37
Total	\$36.62
Cost of siloing, per ton	.73
Cost of growing, per ton (Oklahoma figures)	.86
Total cost of silage per ton	\$ 1.59

The Oklahoma Experiment Station reports in their bulletin number 87, as



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S. C. BROWN LEGHORN COCKERELS, extra quality. Six for \$5. Mrs. L. H. Hastings, Thayer, Kan.

FOR SALE—PURE-BRED WHITE Langshan cockerels, \$2.00 and \$2.50 each. Henry Neldig, Madison, Neb.

SINGLE COMB WHITE LEGHORN cockerels for sale, \$1 to \$1.50 each; pullets, \$1 each. Q. F. Lambert, Palmer, Neb.

ROSE COMB BROWN LEGHORN COCKERELS, \$1 each. Prize winners. Otto Borth, Plains, Kan.

ROSE COMB BROWN LEGHORNS FROM prize winning stock. Cockerels and pullets, \$1 each and better also trios and pens. Mrs. J. E. Wright, Wilmore, Kan.

FINE SINGLE COMB WHITE LEGHORN cockerels, prize winning stock, \$1 to \$1.50. White Holland Turkeys, hens, \$2; toms, \$4. Mrs. Frank Odle, Wamego, Kan.

LIGHT BRAHMAS, BROWN LEGHORN hens, cheap. Bronze Turkeys, cockerels, several breeds. Emma Ahlstedt, Roxbury, Kan.

EXHIBITION SINGLE COMB WHITE Leghorns, exclusively; 200 grand show cockerels. If you want prize-winners, write for description and prices. Satisfaction guaranteed. W. H. Sanders, Box E275, Edgewater, Colorado.

TURKEYS

PURE-BRED WHITE HOLLAND TURKEYS. Winnie Litton, Peabody, Kansas.

DARK RED BOURBON TOMS, \$5.00. Mrs. W. G. Prather, Eureka, Kan.

BOURBON RED TOMS, \$4.00. ROSE Comb Brown Leghorn cockerels, 75 cents. Mrs. J. W. Floyd, Gentry, Mo.

LARGE MAMMOTH BRONZE TURKEYS not related to stock sold previous years. Sadie Litton, Peabody, Kan.

BOURBON RED TURKEYS—FINE PURE-BRED birds. Toms, \$4.50; hens, \$3.50. Chas. Crane, Conway Springs, Kan.

PURE-BRED BOURBON RED TURKEYS, Buff and White Orpington Partridge Rock chickens. A. M. Farmer, Pratt, Kan.

FOR SALE—MAMMOTH BRONZE TURKEYS, White Wyandotte cockerels. Alex Thomason, Havana, Kan.

MAMMOTH BRONZE TURKEYS FROM winners at state show; the best I ever offered for sale. Also registered Scotch Collie pups. I. P. Kohl, Furley, Kan.

MAMMOTH BRONZE TURKEYS.—20 toms, weight 20 lbs., extra choice, \$3.50 each; 12 hens, \$2.25 each. These prices for 30 days. C. F. Behrent, Oronoque, Norton Co., Kan.

DUCKS AND GESE.

CHOICE INDIAN RUNNERS.—DUCKS, \$1.50; drakes, \$1.25. Mrs. E. M. Jones, Granger, Mo.

FOR SALE—BUFF ORPINGTON DUCKS, pairs or trios; very fine; cheap. Also a few Rose Comb Red cockerels. Doctor Hanna, Bolckow, Mo.

January 10, 1914

follows on the cost of producing silage. The figures from this bulletin do not furnish anything on the itemized cost of harvesting the crop and filling the silo. In order to complete the record and get at the total cost the figures on this item from the Hays Experiment Station in Kansas, are inserted.

Cost of raising one acre of corn...\$7.73
At 4.5 tons silage per acre, One ton costs... 1.72
Add for siloing (Hays Station)..... 1.16

Total cost per ton.....\$2.88

At 8 tons per acre 1 ton costs.....\$.965
Cost of siloing (Hays Station)..... 1.165

Total cost of one ton.....\$2.13

At nine tons per acre one ton costs...\$.86
Cost of siloing..... 1.16

Total cost of one ton.....\$2.02

From a government report on the cost of producing crops in Minnesota, the following figures are taken:

Cost of producing silage per ton...\$2.15
Cost of growing one acre corn..... 7.695
Average tonnage (ton per acre)... 9.59
Cost of growing one ton silage..... .30%

From Nebraska have come the figures which follow, showing the cost of growing corn and placing in the silo:

Cost of growing one acre.....\$10.068
Cost of one ton on 25-bu. corn, five tons to acre..... 2.013
Cost in silo..... 2.566

C. S. Nevius of Chiles, Kan., who has several silos and who has had a number of years' experience in handling silage, furnishes the following figures which were drawn from experiences on his own farm:

PUTTING UP 450 TONS OF SILAGE.
Seven teams seven days at \$3.00...\$147.00
Three men seven days at \$2.00..... 42.00
Power and cutting..... 60.00

450 tons cost.....\$249.00
One ton cost..... .553

Mr. Nevius figures that the corn in the silo in an average corn year ought to be calculated at the rate of 50 cents per bushel or in other words, if his silage crop represents 1,000 bushels of corn he figures that it has cost him \$500 to produce this crop.

By this method of figuring a 25-bushel yield of corn which Mr. Nevius calculates represents a 5-ton yield of silage means a cost of \$2.50 per ton for the silage; adding his cost of filling, 55 cents, we have a total cost of \$3.05 per ton in the silo. With a 7 1/2-ton yield per acre, with which goes a 40-bushel yield of corn, we would have a crop cost of \$2.66 per ton and adding the 55 cents per ton for filling a total cost of the silage in the silo of \$3.21.

In order that these various figures as to the cost of growing and producing silage may be compared and combined, the following table is given:

COST OF GROWING CORN.			
	Pr. a	5 T.	8 T.
Minnesota.....	\$ 7.69	\$11.54	\$ 9.96
Oklahoma.....	7.73	1.54	.96
Haecker (composite)....	9.30	1.86	1.16
Nebraska.....	10.06	2.01	1.26
COST OF SILAGE BASED ON CORN AT FIFTY CENTS PER BUSHEL.			
Nebraska (39 bu.).....	7 tons at	\$2.786	
Oklahoma (50 bu.).....	10 tons at	2.50	
Nevius (Kan.) (25 bu.).....	5 tons at	2.50	
Nevius (Kan.) (40 bu.).....	7.5 tons at	2.66	
COST OF SILOING PER TON.			
Nevius (Kansas).....		.55	
Minn. (including int. and deprec.).....		1.35	
Haecker, siloing alone.....		.75	
Michigan farmer.....		.73	
Haecker (including int. and deprec.).....		1.23	
Hays Station, siloing kafir.....		.62	
Hays Station, siloing kafir.....		.61	
Hays Station, siloing corn.....		1.16	
COST OF SILAGE PER TON.			
Haecker.....		\$1.95	
Minnesota.....		2.15	
Michigan farmer and Oklahoma.....		1.56	
(Including 50 cents int. and deprec.).....		2.00	
Nevius and Nebraska (25-bu. corn).....		2.56	
(Including 50 cents int. and deprec.).....		3.06	

In studying these figures it would seem that the cost of growing corn per ton should not exceed about \$1.00. The cost of siloing per ton is in the neighborhood of 75 cents. Professor Haecker is the only one among those reported who takes account of the item of interest and the depreciation. The itemized statement from him as to the cost of producing silage appears on this page and it will be noted that this item he gives at 50 cents per ton. Combining the cost of growing the crop and the cost of siloing and adding 50 cents per ton for depreciation, the cost of producing silage amounts to \$2.25 per ton. Such figures of course do not hold in a year such as we have just passed through but in normal years it undoubtedly is a very close proximation of the cost of producing silage.

Sugar Beet Growing Extended.

It seems that the Arkansas Valley no longer has a copyright on the successful growing of sugar beets in Kansas. Last spring we made mention of the fact that farmers in the Cottonwood Valley west of Emporia had planted about a thousand acres of sugar beets, the planting on each farm being done on a comparatively small scale in order to test the



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PURE BRED POULTRY

CORNISH FOWLS.

GOOD CORNISH COCKERELS, PULLETS from state show winners. Dollar each and upwards. Eggs in season. L. C. Horst, Newton, Kan.

ORPINGTONS.

BUFF ORPINGTONS, S. C. BROWN LEGHORNS. I have some extra nice birds for sale. G. F. Koch, Jr., Ellinwood, Kan.

The reason that beets, mangels, rutabagas, etc., are not more generally used for feed is because the siloing of corn has become so generally understood and so well high universal that root crops have been unable to hold their way with silage. However, on those farms on which there is no silage, root crops are valuable, principally for their succulence and because of their effect as a tonic. Of course, all root crops have a greater or lesser nutritive or feeding value. It is our idea, however, that the growing of sugar beets to be most profitable should enter into the scheme of general farming. The farming of beets alone cannot be made profitable principally because they do not furnish year around employment. This condition is being felt in the beet fields of Garden City, that locality in Kansas in which beets have been grown far years. In fact it is the effort of the sugar company of Garden City to induce farmers to engage in dairying and in the keeping of stock cattle in small numbers. The beet tops supply considerable feed and which feed is too valuable to waste. The beet fields need the manure from live stock. The beets also should be rotated with other crops. Therefore, the growing of feed for live stock and the keeping of such stock is regarded as essential to the greatest profit in beet culture.

An effort is being made to produce pork in Argentina, but so far little success has been had, for the Spanish and Italian settlers do not take to live stock raising, that requires time, care and attention. So it is not probable that much danger of competition may be found from this source.

PURE BRED POULTRY

PLYMOUTH ROCKS.

BARRED ROCK COCKERELS. PRICES reasonable. Dradle Dunbar, Columbus, Kan.

BARRED ROCKS—68 PREMIUMS. Choice cockerels, \$3 each and up. Mrs. D. M. Gillespie, Clay Center, Kan.

FINE SELECTED WHITE ROCK COCKERELS, \$2 each. Martin Mischke, Crofton, Neb.

BARRED ROCKS—I HAVE SEVERAL cockerels from my state show birds for sale. Write me. A. T. Edwards, Plains, Kan.

BARRED PLYMOUTH ROCKS FOR sale. Cockerels at \$2; pullets and last year's hens at \$1 each. Four male and four female Hampshire pigs for sale. E. S. Tallafarro, Route 3, Russell, Kan.

BARRED ROCK COCKERELS—UTILITY birds for the farm flock, hatched from mated pens. Light colored, \$2.00 each; medium and dark, \$3.00 to \$5.00. C. C. Lindamood, Walton, Kan.

WHITE ROCKS—BRED FROM OUR Missouri State, Kansas City, Little Rock, Jefferson City and Western Missouri winners. Four good hens and a cockerel, \$10.00. Edelstein Heights Farm, Harrisonville, Mo.

SEVERAL BREDS

BUFF ROCKS AND BLACK LANGSHAN cockerels, \$1 each. Raised on separate farms. Mrs. Newton Hoffman, Rosendale, Mo.

PAYING 180 FOR TURKEYS, HEAVY hens 12, springs 12 1/2, stags 11, geese 11, ducks 13. Coops loaned free. Daily remittances. The Copes, Topeka, Kan.

SIXTY VARIETIES—BLUE RIBBON birds at all the big shows, such as the State Fair and Kansas State Shows. Some splendid birds for winter shows or breeding. Some in all varieties for sale. Western Home Poultry Yards, St. John, Kan.

ANCONAS.

COCKERELS—ANCONAS, REDS, PEN- cilled Drakes, Bourbon Red Turkeys. Mrs. Frank Wallace, Weldon, Iowa.

LANGSHANS.

BIG-BONED DARK-EYED GREENISH glossy black Langshans, \$2.50 each. Guaranteed. H. Osterfoss, Hedrick, Iowa.

BLACK LANGSHANS—COCKERELS scored by Rhodes. Martha Haynes, Grantville, Kan.

BLACK LANGSHANS—CLOSING OUT half price to make room. A few good Houdan cockerels. Write E. D. Hartzell, Rossville, Kan.

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Regardless of the size or value of the crop, and without any cash payment to us on your part whatsoever.

We have very little money to spend for advertising, but we know what our land will produce, and we will give a new settler 10 acres and take his first crop of watermelons in full payment for same.

This crop can be produced at small expense and is marketed within a few months. We take only the first crop. You can raise other crops for yourself the same year.

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Our growers make big money out of tomatoes, syrup cane, winter vegetables, staple crops and watermelons, which are shipped in solid train loads; 65 spot cash buyers here one day last season.

Come now and pick out your land while prices are low. Our land is selling at \$55 an acre and up on easy terms. You can have it planted on shares or set out to grapefruit, which bears in 4 years. A 10-acre grapefruit grove means an income for life-old age insurance. For particulars, address

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Home Credits at School.

"Breakfast is ready, mamma," gently called Elsie Jane. And mamma, especially refreshed by her "forty winks" more of sleep, came from her room to find a dainty meal for the family steamed on the neatly laid table. For this a report went from mamma to Elsie Jane's teacher, and a credit of "30" was allowed under Elsie Jane's name.

While Elsie Jane and her little sister Mamie were washing the dishes (for which a report was duly made to teacher and a credit of 10 earned) Johnnie Alexander came in from the lot with brimming pails of milk and mamma reported him in such a way that he also received a school credit of five marks for each cow.

In this wise every item of home work is reported to teacher, who has a schedule of credit marks, and the list grows, according to the continued industry of Elsie Jane and Johnnie. The items cover every conceivable "help" to mamma and father. Biscuit and bread making, making beds, feeding the hogs, ironing own clothes, cleaning out the barn, keeping room in order, bathing, early retiring, washing teeth—the list is seemingly interminable, but everything counts when reported to teacher, and careful mamma never neglects that.

What does it all mean? Simply the working out of an idea of Superintendent Miss Etta Jo McCoy to give school industrial credit for home industrial work. She believes, does Miss McCoy, that the school can be a real helper to the home and by the enthusiastic cooperation of the county teachers the credit plan has been inaugurated. Already it has been adopted in a number of the country districts, and is to be taken up by others. The plan is worked out so that the home reports are prepared for children according to age, so that no child will be required to do too much. To add interest, exhibitions will be given at stated times so that all may learn from each other and the best be the model for all.

Extract From Address by E. E. Reed, Member Congress.

Congressman Eugene E. Reed at whose home in Manchester the National Convention of the Grange was in session gave strong expression of his views on governmental aid for the farmer. He said in part:

"I favor liberal appropriations for agricultural purposes. Former administrations have appropriated 14 million dollars, or less, annually for the work of this important federal department. The present administration increased this appropriation to 18 million dollars, which amount is entirely inadequate when considered from the standpoint of the total annual appropriation for the expense of the government, which is in excess of one billion dollars.

"I believe it to be a proper federal function to undertake the problem of economic and scientific distribution. There is a great deal of lost motion and waste. There is no apparent good reason why the consumers in Washington, Philadelphia or Pittsburg, should be compelled to pay \$1.50 to \$2 per bushel for potatoes, when the farmers of Maine, New Hampshire and Vermont are offered prices too low to pay the expense of harvesting this crop. Neither is there good reason why fruits or vegetables of the southern countries should glut the New York markets, while the consumers of other localities are compelled to do without or pay exorbitant prices for these products.

"We know of instances where a few men have cornered the poultry market at holiday seasons, compelling the consumer to pay exorbitant prices for products which were purchased at a moderately low price. This latter condition is not due to the local merchants nor the wholesale house, but to a few individuals who monopolize for the pur-

pose of charging maximum prices, that will yield them the greatest total aggregate profit, and render to society a minimum social service.

"It is estimated by the department of agriculture that the products of the farm last year sold to the consumers of the country for 13 billion dollars, yet the farmers received for their crops only six billion dollars, or seven billion dollars less. This emphasizes two facts which I desire to make clear at this time. First, the farmers are receiving too little for their products; second, the consumers are paying too much.

"It is imperative that laws be enacted that will stop gambling in farm products. The continual betting on the prices is an artificial enterprise that can be productive of no good or legitimate result, but on the contrary must work great harm. In my judgment it is not as harmful to the farmers as to the community in general by undermining commercial integrity often to the extent of a misappropriation of funds, the failure of financial institutions and industrial enterprises.

"I favor the creation of a real division of markets in the department of agriculture for the purpose of developing a more economic and scientific marketing of farm products in order that the consumers of the country may pay less and the farmer receive more.

"The National Grange stands for federal aid for road improvement and under this head I desire to say I favor federal substantial assistance to make good roads. I am a member of the Lincoln Highway Association and have contributed my mite to this most worthy cause. As a memorial to Lincoln, I should favor it, if for no other reason. The Lincoln Highway is only a start in the right direction, however, the move should be universal and good roads should be everywhere.

"The federal government has expended hundreds of millions of dollars since the war in the dredging of harbors and rivers in the interest of commerce, and in my opinion it is a wise and judicious expenditure. Nearly five hundred million dollars is being expended in the building of the great Panama Canal, which when completed will stand a perpetual monument to American skill and ingenuity. With this added transportation facility the trip from New York to San Francisco will be shortened from 1,824 to 240 hours. It seems to me that the building of good roads in this country is quite as important for defense, commercial, political and patriotic purposes, as the building of the Panama Canal and warships.

"They're needed that the farmer may get to town for business purposes, that his children may have better educational facilities, and that he may get to church for worship."

\$500 in Prizes to Be Given Away.

KANSAS FARMER has just announced its third motorcycle prize contest for the sons of Kansas farmers. Five hundred dollars in prizes will be given away, including a new 1914 model \$260 motorcycle. It costs you nothing to enter this contest, and you will be paid in cash for the work you do. Send in your name and address at once to Contest Manager KANSAS FARMER, Topeka, Kan., and full information will be sent to you. This places you under no obligation to us, whatever.

W. P. Hodgson of Oklahoma, is highly pleased with his experience in the feeding of silage and he writes as follows: "I have over 150 head of registered Herefords besides my stock cattle. I feed silage to everything and can raise them cheaper and better with silage than anything I have ever tried. The past season I did not have to sell my breeding stock off as many of my neighbors did as I knew we could winter them with silage we were able to produce on the farm."

Few facts in agriculture have been more clearly and conclusively established than that the silo is a necessity to the stock farmer. When we consider the various conditions under which the numerous experiment stations all over the country have been conducted it is surprising to find the results so similar and all pointing to the one conclusion.

Silage-fed stock require one-third less grain than cattle fed dry fodder, and produces beef more economically.

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MAN PAST 40 WANTS SITUATION ON farm for self and wife. Capable of doing all kinds farm or ranch work. George R. Harwood, Scranton, Kan.

THE STRAY LIST

T. T. DAVIS, COUNTY CLERK, WOODSON County. Taken Up—One red heifer, white face with horns; T on left hip. Appraised value, \$25, by John Stock, Yates Center, Kan., December 17, 1913.

HOME CIRCLE



If your lemons have become hard, soak them in hot water for a few minutes.

To remove the yellow of fried eggs from a dish, before wetting it sprinkle some salt on it and rub with the fingers.

To prevent milk, or foods cooked in milk, from scorching, rinse the stew pan out with cold water and rub over with a little fresh butter or lard.

The circle that if left on garments after removing a spot with gasoline may be prevented if the cloth while still wet with gasoline is rubbed well with dry salt.

Feared the Penalty.

Papa—Come, come, Willie! Don't cry because you've barked your shin a little. Act like a man!

Willie (blubbering)—Yes! Then you'd whip me! You told me you would if you ever caught me swearin'.—American Boy.

Reserved for a Better Fate.

A teacher had been telling a little boy the story of the disobedient lamb that was eaten by the wolf.

"You see," said she, "had the lamb been obedient and stayed in the fold, it would not have been eaten by the wolf, would it?"

"No, ma'am," said the boy, promptly; "it would have been eaten by us."

To Extract a Splinter.

When a splinter has been driven deep into the hand, it can be extracted by steam without pain. Fill a wide-mouthed bottle almost to the top with hot water; then place the injured part over the mouth of the bottle and press lightly. The suction will draw the flesh down, and in a minute or two the steam will extract the splinter and relieve the inflammation.—N. W., San Jose, Cal.

Shirred Eggs in a Noodle Case.

Line a baking dish with cooked noodles or spaghetti. Moisten with half a cupful of cream or rich milk; break into the dish as many eggs as required, float over them half a cupful more cream, one tablespoonful of grated cheese, dots of butter. Season with salt



No. 6253—Ladies' Dress. This simple dress consists of a plain blouse with ornamental front closing, wide collar and long or short sleeves, joined to a four-gored skirt, which also has an ornamental outline to the front seam, where the closing is placed. The pattern, No. 6253, is cut in sizes 34 to 42 inches bust measure. Medium size requires 5 yards of 36-inch material. Price of pattern, 10 cents.

and cayenne and bake half an hour in the fireless cooker, or until the eggs are set.

Where Licorice Comes From.

Very few people have any idea where the familiar licorice root comes from. As a matter of fact, the bulk of it hails from Syria. Here it is gathered and



piled into great stacks, where it remains until it is thoroughly dry. It is then taken to the factory to undergo certain processes. The finished product is used for flavoring confectionery and beer, as well as entering into the make-up of many brands of tobacco. Some idea of the extent of the industry may be gathered when it is stated that, on an average, 8,000 tons of dry licorice root is shipped from Aleppo annually,

while Bagdad yields another 6,000 tons, Antioch 4,000, and Damascus 500 tons. With the exception of the Damascus output, the whole trade is in the hands of a single firm.—Wide World Magazine.

A Burmese Marriage Superstition.

A curious idea among the Burmese is that people born on the same day of the week must not marry, and that if they defy the fates their union will be marked by much ill luck. To prevent these disastrous marriages every girl carries a record of her birthday in her name, each day of the week having a letter belonging to it, and all children are called by a name which begins with that letter. It is rather hard if the Marys and Marks of Burma fall in love with one another. Unlike other Oriental lands, the young people are allowed to marry as taste dictates, subject only to the birthday restrictions.

No. 5266—Infant's Set. This set consists of a dress, slip, petticoat, bib, hood and booties. The dress is made with long sleeves and a round neck. The edges of the hood are scalloped and embroidered. The pattern, No. 5266, is cut in one size and requires for the dress 2 1/2 yards of 36-inch material and 1 1/2 yards of insertion; for the slip, 2 yards of 27-inch material; for the petticoat, 1 1/2 yards of 36-inch material, 5 1/2 yards of insertion, and 2 1/2 yards of edging; for the hood, 1/2 yard of 36-inch material; for the bib, 1/2 yard of 36-inch material, and for the booties, 1/2 yard of 27-inch material. Price of pattern, 10 cents.

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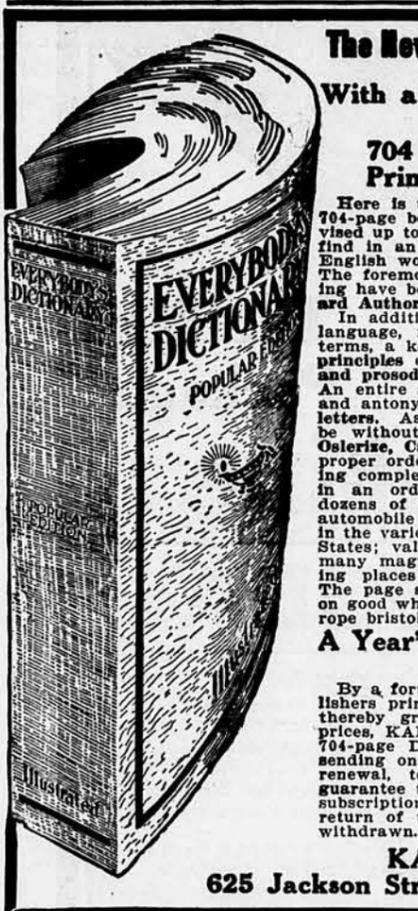
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Fort Hays Experiment Station

Largest Experimental Farm Tests—Devoted Wholly to Western Kansas Problems—By George Helder

THE largest tract of land in the United States devoted to experimental work in all features of agriculture, adjoins the city of Hays on the south. It comprises about one-half of the historical Fort Hays Reservation, being ceded to the state in 1901 for educational purposes. In that year hardly an acre of sod was "turned" on the vast area, no fences were erected, rural folks forded Big Creek and then took across country in whatever direction their destination or home lay. Coyotes, jack rabbits, racoons, possums, skunks, prairie dogs, and other disappearing animal life of the plains, possessed the land. And, what have we here today?

A well planned and operated farm of 3,600 acres. Seventeen buildings, exclusively of numerous stock sheds, and three structures remaining from the once famous Fort Hays, are the establishment for the executives and working forces of the big farm. Thirty miles of fences, not including the corrals and cattle pens, cross the reservation in many lines, bounding fields, pastures, and marking roadways. Drives, well kept and the joy of modern motorists, make the experiment station one vast park, and lead to all parts of the farming lands and experimental fields. The commencement of a state public park is well established by the planting and subsequent culture of trees. Hundreds of trees now grow where ten years ago there appeared nothing but buffalo sod. The great heritage left by the troops once stationed at Fort Hays, in the well preserved native woods that abound on the banks of Big Creek as it winds through the acres of the station, proves a valuable nucleus for the extension of this state park. No region of western Kansas possesses any thing like it.

FARM WELL EQUIPPED FOR SERVICE.
The farm is further equipped with 50 or more mules and horses, used in the operation of the 2,150 acres now under cultivation. The machinery utilized has a value of \$14,000, and comprises almost everything essential to good farming practices in western Kansas, from hand trowel to steam plow and threshing machines. At present four silos full of succulent feed, and considerable forage grown in the last two years, supply rations for the work stock, 350 cattle, 25 dairy cows, 75 sheep and 150 hogs being fed at the station. Despite drouths of recent years, the station's farming methods have produced sufficient feeds to care for all its stock; none having to be marketed by reason of short fodder supply.

THE STAFF OF EMPLOYEES AND DIRECTORS.
The local staff having the operation of affairs in hand at the state farm, include a superintendent, his assistant, a foreman and assistants in dry farming, cereal, forage crops, and dairying

investigations. There are in addition to these, ten regularly employed workmen who accomplish the actual labors abundant upon a farm of such proportions. Nine dwellings provide residence for almost all of the employes stated. During the busy season of the year the force of employes number for 45 to 60, depending upon the extent of harvest.

The institution is a part of the State Agricultural College and under the general management of the State Board of Educational Administration. The agricultural investigations are planned by joint consideration of the local staff and the Agricultural Division of the state college. The director of the Kansas Experiment Station at Manhattan, also supervises affairs at the Fort Hays Station.

ADMIRABLY ADOPTED TO INVESTIGATIONS.
Farm crops grown include all that may offer success under the climatic influence this region is subjected to. With a credited rainfall of 23 inches as normal, and soil conditions of varying degrees of composition and fertility, this station is favorably located to conduct investigations, results of which are adaptable to regions of the western third of Kansas, and parts of Colorado, Oklahoma, Nebraska, and Texas. Correspondence from all of these sections is received, relating to many agricultural interests.

The main farm is subdivided into fields which carry a three year rotation of wheat, summer fallow, and kafir. In addition, profitable alfalfa stands appear in creek bottoms, and one on higher land. Other fields are used by special projects of experimental cropping, spring grain production, seed breeding plots, and forest tree nursery work.

Trees and seeds from well grown stocks, are distributed by the station throughout the West and South, these include forest trees, wheat, sorghums, spring grains, and alfalfa.

CROPS UNDER EXTREME CONDITIONS.
The year just past proved one of extreme weather. The previous winter brought but two inches of moisture. After the rains of April and May only 1.27 inches of moisture fell in June, July, August and to September 10. Under this situation for crop requirements, the station produced an average of 12 bushels of wheat per acre upon 350 acres, all varieties and treatments of fields considered. Corn grew to make good silage fodder, being reported as good as grown in central Kansas. Kafir made one-fourth a grain yield on two fields, and supplied abundant forage to fill three large cement silos on the farm. In this way the station authorities can feel gratified as the approach of the year's greatest festival season prompts some relaxation from the manifold duties which occupy the working force throughout twelve months of the year at the Fort Hays Station.

Farming and Capital

One of the readers of **KANSAS FARMER** writes to say that in his opinion cheaper money with which to carry on farm operations is absolutely essential if farmers are to make any profit. It is true that many a farmer is greatly hampered in his operations by lack of working capital. The amount of capital required to successfully farm is becoming greater each year. Land values are increasing, which calls for a greater initial investment and with the shortage of labor which exists, much more machinery is being required to successfully carry on farming operations than formerly.

It is also just as true that the wide-awake, well trained young merchant or other business man may be greatly handicapped in realizing the fullest returns from his ability, due to a lack of working capital. The merchant or business man, however, has been far more successful in learning to use borrowed capital and make it pay a profit than the farmer. A farmer with a small capital oftentimes uses up all his cash in securing the farm and what equipment may be absolutely necessary in carrying on the actual work of his business and for that reason is narrowed down in his operations to the small amount of capital which he may have had to start with.

With the increased necessity for the

introduction of live stock farming, the amount of capital required is even greater than in the earlier history of the country when grain farming was more exclusively practiced. If the results secured by Professor Warren of New York, who has investigated the business management of 578 farms in certain sections of that state, are correct, the live stock farmers ought to have in the neighborhood of \$15,000 of capital available in order to handle the business profitably. In the investigation of these farms Professor Warren determined the percentage of income derived from the live stock and from the grain produced. Farmers with \$7,500 or less capital were found to be securing about two-thirds of their income from the sale of grain. Farmers capitalized at \$20,000 or more were found to be securing three-fifths of their income from live stock. Among the farmers having capital of but \$15,000 or less he found that those leaning toward grain production, securing four-fifths of their income from crops sold, were making the most money. The live stock farmers in the class capitalized at \$15,000 or less were only receiving about two-thirds as much annually as those who followed grain farming more extensively. Farmers capitalized at over \$15,000 made the most money where two-thirds of the income came from live stock products.

The result of these figures would seem to indicate that live stock farming undoubtedly involves a greater investment of capital, but in the long run the returns from this system of farming are greater than the returns following the system of grain farming.

From the fact that the capital required in the handling of a distinctly live stock farm must be tied up for a longer period of time than is necessary in other lines of farming it is more difficult to evolve a system which will enable the live stock man in need of capital to operate it satisfactorily. Some of our writers have conveyed the idea that the bankers must be educated to the point of adopting some system of co-operation which will enable the live stock farmer to finance his breeding operations more successfully. The writer feels that the farmer himself perhaps needs some education as well. The farmer from the very nature of his operations has not tended to develop the class of business ability required

in the handling of large amounts of working capital. The average farmer conducts his business without the assistance of any system of accounts whatever. Before a farmer can successfully carry on a large business involving the handling of large amounts of capital he must adopt some system of bookkeeping which will enable him to have a better grasp of the business side of his operations than he now has. Business management must be admitted to be one of the weak points in the practice of the average farmer. There are difficulties involved in the working out of thoroughly successful methods of farm accounts, but the farmer who would succeed in a large way must solve this problem. The natural ability of the average farmer is undoubtedly equal to if not superior to that of the average business man and when he has successfully evolved a system whereby his business management is brought to a par with his ability as a farmer, he can easily take his place with the successful business men of the country.

Farmer His Own Butcher

Hog Killing at Home Saves Money
—By A. M. Patterson, K. S. A. C.

THE animal to be butchered should be in perfect health, fat, and gaining in flesh. Twenty-four or thirty hours before slaughtering it should be taken off feed and given nothing but water. During this time gentle handling is very important, for an animal which has been run around or bruised before butchering will not bleed well, will not keep well, and its meat will be dark and blotched.

DON'T SHOOT A HOG.

The work of killing and dressing must be done rapidly. A dry, clean, place must be used and the necessary tools—a sticking knife, a scalding barrel, a gambrel stick, and scrapers—should be close at hand. Never stun or shoot a hog before sticking. To do so retards bleeding and affects the quality of the meat. Throw the animal on its back and cut a gash four or six inches long just through the fat from the end of the breastbone toward the jaw. Then, with the sharp edge downward, run the knife below the breastbone, toward the back of the head, at an angle of 45 degrees. When the knife is inserted four to six inches, depending on the size of the hog, raising the handle will cut the arteries leaving the heart, and proper bleeding will follow.

The scalding barrel is set at an angle of forty-five degrees, so that the carcass may be more easily handled. Water for scalding should be very hot and should have wood ashes or a small quantity of lime in it, which will loosen up the scurf and hair. The temperature of the water may be tested by running the fingers rapidly through it three times. If one can scarcely stand to put the fingers in it the third time, the temperature is correct. Put the hog in the barrel and work up and down until the hair comes off easily. Do not scald too long, however, as that will set the hair and it will then have to be shaved off. In scraping, always clean the head and feet first and then scrape the remainder of the carcass with a scraper or corn knife.

HOW TO HANG UP.

After the hog is thoroughly cleaned, open the tendons in the hind legs, insert the gambrel stick, and hang it up. Wash it thoroughly with hot water and shave and scrape it with a sharp knife to remove any remaining hair or scurf. Then throw cold water over it to whiten and bleach it. Wipe thoroughly dry, and it is ready to be gutted.

In gutting, first split the hog between the hind legs through the bones. Separate the bones and with a knife cut down the belly to the incision made when sticking, shielding the knife with your two fingers to avoid cutting the intestines, and split the breastbone with an axe. Loosen the rectum by cutting around it, and then pull the entrails downward, cutting the places where they cannot be pulled out. Remove the intestines and the paunch together, after which take out the liver. The gall bladder should be cut off carefully. Cut around the diaphragm and remove the heart, lungs, gullet, and tongue. Place a corn cob between the jaws to allow drainage and then wash thoroughly with cold water and a cloth. If the weather is warm, the backbone may be split to facilitate cooling.

COOL IT THOROUGHLY.

Before the pork is cut up, it should be thoroughly cooled through. Lay the

carcass on a block and remove the head, cutting an inch back of the ears, remove the shoulders between fourth and fifth ribs, and cut off the hams two inches in front of the pelvic bones. Split the hams and trim them neatly and smoothly. The feet may be removed at the hock joint, though it is advisable to cut them off two or three inches above the hock, as the hams will then pack closer when cured. Split the middle pieces of the carcass with a saw or an axe and remove the leaf lard, if this was not done when the hog was dressed.

In removing the leaf, begin at the front and peel toward the back with the fingers. The kidneys come out with this fat. Take off the loin and spare ribs, leaving the lean meat of the back on the loin, which may then be used fresh as a roast or as chops. When cutting the meat from the ribs the separation should be made as near the ribs as possible, as this improves the quality of the bacon. Cut the sides into even size pieces to be cured and smoked, trimming the edges up square and cutting off all ragged end pieces to be used for sausage or lard. Trim the shoulders, taking out the ribs and neck bones and cutting off all bloody spots. Remove the feet at the knee joint. Next, split the head. On heavy hogs the jaws are removed and used for salting, but ordinarily they are used for head cheese or sausage.

In next week's issue Mr. Patterson will tell about making sausage, and curing and smoking the meat.

Turn Your Spare Time Into Cash, Boys.

If you would like to own a fine \$260 1914 model motorcycle and earn good wages while working for it, send your name and address to Contest Manager KANSAS FARMER, Topeka, Kan. The third motorcycle contest is just starting. Five hundred dollars in prizes will be awarded. It costs you nothing and you can turn your spare time into cash while farm work is slack.

The Smallest Beast of Prey.

The smallest carnivorous animal in the world is an American weasel, which is numerous in Northwestern Canada and Alaska, and is occasionally seen about the Great Lakes.

Although the animal turns white in the north in winter, it does not show the black-tipped tail which characterizes an ermine pelt; and so it is not sought by trappers and fur-traders. This fact, with its small size and secretive life, has made its habits very little known. It feeds on insects (which it finds alive in summer and in winter digs out of rotten logs), upon small birds, etc., but lives mainly on mice. These it can follow into their narrowest holes and runways, for it is scarcely larger than a fieldmouse itself; or, striking the trail of one, it will trace all its wanderings and as soon as it catches sight of its prey it will spring after it with amazing and fatal rapidity.—The American Woman.

Lice on hogs can be eradicated by applying along the back of each hog some crude oil. They can also be killed by washing or dipping the hog in coal-tar dips, several of which are on the market. The beds and litters of pigs should always be clean and free from dust.

Classified Advertising

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FOR SALE—ELEVEN HUNDRED ACRES unimproved Northern Arkansas. Fine white oak timber. Seven hundred acres suitable for cultivation. Will make fine stock farm. Thirteen dollars per acre. Good terms. Box 15, Ozark, Ark.

FOR SALE—ONE OF THE FINEST ALL modern country homes in Kansas. 57 acres of land, 1/4 mile from University of Kansas and Lawrence. Finest location and view in state. Fine stock farm, large barns, plenty of water. 45 head registered hogs, 300 chickens. Priced right. C. Edw. Hubach, Route 1, Box 9, Lawrence, Kan.

FOR SALE—AN 84-ACRE FARM 6 1/2 miles northeast of Abilene, Kan. 23 acres in pasture, balance in cultivated land and alfalfa. Barn built three years ago cost \$1,200; good 7-room dwelling built during the last five years. Price, \$8,000, with payment of \$2,000 in cash, balance for seven years at 6 per cent. No trade will be considered. C. C. Wyandt, Abilene, Kan.

VICTORIA, AUSTRALIA, WANTS SETTLERS. Special inducements offered by State Government which owns lands, water, railways and free schools. Excellent climate, resembles California; no extreme heat or cold. Small deposit and 3 1/2 years for purchase of lands, adapted to every kind of culture. Citrus fruits, apples and pears; wheat, corn, alfalfa, sugar beets; dairying, hog raising, etc. Ample markets. Exceptional opportunities in irrigated districts. Reduced passages for approved settlers. Free particulars from F. T. A. Fricke, Box 34, 687 Market St., San Francisco.

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REGISTERED JERSEYS, IF YOU WANT a good Jersey bull calf, write Sable & White Stock Farm, Seward, Kan.

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FOR SALE—REGISTERED JERSEY bull calves, grandsons of the \$15,000 Noble of Oaklands, at \$35 for immediate sale. Geo. H. Combs, 508 Benton, Kansas City, Mo.

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PEDIGREED MULEFOOT PIGS FOR sale. J. W. Cox & Son, Arapahoe, Neb.

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SEED CORN SUITABLE FOR KANSAS soils. John Dunlap, Williamsport, Ohio.

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COLLIES, AIREDALES, TERRIERS— Send for list. W. R. Watson, Oakland, Iowa.

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TRAINED BEAGLES, RABBIT HOUNDS, Fox Hounds, broke on fox and rabbits; Coon, Opossum, Skunk Hounds; Bear, Deer, Wolf Hounds; Setters, Pointers, Spaniels. Several hundred ferrets and list. Brown's Kennels, York, Pa.

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GOOD VIOLIN FOR SALE CHEAP. EX- cellent toned. Could send on trial. Write Miss Bertha W. Mardis, Route 5, Rosedale, Kan.

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EXPERIENCED MAN, SINGLE, AGED 41, wants work on farm. Address Theo C. Miller, Salina, Kan.

WANTED—A JOB BY THE MONTH ON a farm by a married man. Would board hands if desired. R. L. Hamilton, Virgil, Kan.

WANTED—WORK ON FARM BY YEAR. Colored, married, experienced, 49 years old. Can give reference. T. R. Riggsby, 609 S. Grant, Chanute, Kan.

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TOBACCO—I HAVE THOUSANDS OF pounds of fine old Kentucky chewing or smoking tobacco, 30 cents per pound, postpaid. Chas. T. Daniel, Chanute, Kan.

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Pure-bred Registered HOLSTEIN CATTLE

Large sums are put into land, buildings, horses, machinery and labor in order to maintain cows that are utterly unable to return a profit. On a dairy farm the efficiency of the herd should be the first consideration. With good pure-bred Holsteins you are sure to earn a generous profit on any intelligent investment of your money, time and labor. After the cost of her feed is deducted a good Holstein will return a profit of \$60 to \$100 per year in addition to a valuable calf. Send for FREE Illustrated Descriptive Booklets. Holstein-Friesian Assn., F. L. Houghton, Sec'y, Box 114, Brattleboro, Vt.

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80 Head of high-grade Holstein heifers and cows from 2 to 6 years of age. A number just fresh. All to freshen this fall and winter. Also a few young bulls, high grade and registered. IRA ROMIG, Station B, Topeka, Kansas.

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CAMERON, MISSOURI. Choice young Holstein cows and heifers for sale. Also few young bulls. Tuberculin tested. When writing advertisers, please mention KANSAS FARMER.

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We will have a car of HIGH-CLASS HEAVY SPRING GRADE HOLSTEIN COWS for sale at Manhattan, Kan., during the week of the Farmers' Short Course at the Kansas State Agricultural College. ARNOLD & BRADY, MANHATTAN, KAN.

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HOLSTEIN BULL CALVES always on hand, and worth the price. H. B. COWLES, Topeka, Kansas. BUTTER BRED HOLSTEINS. For sale—Some choice bull calves. Prices very reasonable. Write me your wants today, as these bargains will not last long. J. P. MAST, Scranton, Kan.

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ROAN HERO

THE INTERNATIONAL CHAMPION, AND ACACIA PRINCE X 8079-338156 the first prize winners, head my herd of Double Standard Polled Durhams. M. P. Ry. 7 miles S. E. of Topeka, Kan. Farms adjoins town. Inspection invited. D. C. VAN NICE, Richland, Kan.

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TEN HERD BULLS sired by Roan Choice, the junior champion of 1911. Prices reasonable. Come and see my herd. C. J. WOODS, CHILES, KAN.

Scottish Baron For Sale

Double standard, weight 2,200; extra individual. Also 12 Shorthorn cows in calf to him, and younger bulls. Inspection invited. JOSEPH BAXTER, Clay Center, Kansas.

POLLED DURHAMS AND PERCHERONS FOR SALE. Young bulls and heifers sired by a son of Roan Hero. Also some choice young stallions and fillies. Prices right. D. L. & A. K. SNYDER, Winfield, Kansas.

HORSES AND MULES.

Two Jacks, five and six years old, 15% and 16% hands high. Cash price, each, \$1,000.00. No trades considered. Also have a few choice Durocs for sale. Owner of Model Queen, grand champion at Nebraska and Kansas, 1910. LOUIS KOENIG, Solomon, Ks.

FIELD NOTES

FIELD MEN. O. W. Devine.....Topeka, Kan. Jesse R. Johnson.....Clay Center, Kan. W. J. Cody.....Topeka, Kan.

PURE BRED STOCK SALES. Percherons. Jan. 27, 1914—Lee Bros., Manhattan, Kan. Feb. 17—Joe Dvorak, Marion, Kan. Feb. 25—J. C. Robinson, Towanda, Kan.

Jacks. Feb. 26—H. J. Hineman & Sons and D. J. Hutchns, Sterling, Kan. March 9—G. C. Roan, La Plata, Mo.

Shorthorns. Feb. 17—C. S. Nevius, Chiles, Kan. Feb. 26—Hoadley & Sigmund, Seiden, Kan. Sale at Norton, Kan.

Holstein Friesians. Feb. 3-4—Henry C. Glissman, Omaha, Neb. Jersey Cattle. March 5—Everett Hays, Hiawatha, Kan.

Poland Chinas. Jan. 20, 1914—Roy Johnston, South Mound, Kan. Feb. 5—John B. Lawson, Clarinda, Iowa. Feb. 11—H. L. Faulkner, Jamesport, Mo.—Feb. 17—H. Fesenmeyer, Clarinda, Iowa. at Norton, Kan.

Feb. 17—L. E. Klein, Zeandale, Kan. Feb. 17—E. M. Wayne, Burlington, Kan. Feb. 18—J. R. Cline, Iola, Kan. Feb. 18—J. E. Harter, Westmoreland, Kan. Sale at Manhattan.

Feb. 19—W. Z. Baker, Rich Hill, Mo. Feb. 19—J. L. Griffiths, Riley, Kan. Feb. 20—W. A. Baker, Butler, Mo. Feb. 20—A. J. Swingle, Leonardville, Kan. Feb. 27—W. A. Davidson, Simpson, Kan. Feb. 28—A. R. Reystead, Mankato, Kan. March 3—George Wedd & Son, Spring Hill. March 4—L. V. O'Keefe, Bucyrus. March 10—Joshua Morgan, Hanky, Neb. March 24—Herman Groninger & Son, Bendena, Kan. Oct. 28—George S. Hamaker, Pawnee City, Neb.

Duroc Jerseys. Jan. 30—N. B. Price, Mankato, Kan. Jan. 31—A. M. Rinehart & Son, Smith Center, Kan. Feb. 6—Leon Carter, Asherville, Kan. Feb. 7—Horton & Hale, DeKalb, Mo. Sale at Rushville, Mo. Feb. 3—Howell Bros., Herkimer, Marshall County, Kan. Feb. 8—E. A. Trump, Formoso, Kan. Feb. 6—R. W. Murphy, Cosby, Mo. Feb. 10—Kansas Agricultural College, Manhattan, Kan. Feb. 11—Thompson Bros., Garrison, Kan. Feb. 12—J. A. Porterfield, Jamesport, Mo. Feb. 12—Edw. Fuhrman & Sons, Oregon, Mo. Feb. 21—Dana D. Shuck, Burr Oak, Kan. March 5—R. P. Wells, Formoso, Kan. March 7—E. G. Munsell, Herington, Kan. March 11—W. W. Otey and Sons, Winfield, Kan. March 12—G. C. Norman, Winfield, Kan. March 13—Samuel Drybread, Elk City, Kan.

Berkshires. Feb. 10—Kansas State Agricultural College, Manhattan, Kan. Sale in forenoon.

A. C. Lobaugh, Poland China breeder of Washington, Kan., reports fine trade in both boars and gilts. He is keeping over a good lot of sows for his own use.

Achenbach Bros., breeders and exhibitors of Polled Durham cattle, report unusual demand for stock. The show bull, Meadow Sultan, never looked so good, and his calves are all that could be expected.

Ben Lyne, the successful breeder of registered Shorthorns and Polands, reports fine sales for stock and thinks the future never looked more promising. He is keeping over about 30 breeding cows and 15 sows for his own use during the coming year.

Hereford Bulls. M. E. Gideon of Emmett, Kan., offers a few choice young Hereford bulls, also a limited number of Duroc Jersey bred sows and gilts and some fall pigs. His advertisement will be found in our Jackson County section. Write him freely your wants.

Poland Boars. If in the market for good spring boars, write Brown Hedge, of Whiting, Kan. Mr. Hedge has one of the good herds of the state. His herd boar, Expansive Wonder, was sired by Old Expansive. He also has Shorthorns and can supply you with a good bull.

Holstein Bulls. G. F. Mitchell, Holton, Kan., has for sale several choice young Holstein bulls. They are out of cows that have made splendid records. Mr. Mitchell also offers a three-year-old bull. See his card in the Jackson County section.

Polled Durhams. If in the market for the very best in Polled Durham cattle, correspond with our advertiser, Ed Steglin, of Straight Creek, Jackson County, Kansas. Mr. Steglin is one of the foremost breeders of the state. He owns the great snow-white breeding bull, True Sultan, winner of nine firsts and eight championships.

Buy Here. Those of our readers who know and appreciate Aberdeen Angus cattle should write or visit the farm and herd belonging to George McAdam, of Holton, Kan. Mr. McAdam has one of the greatest herds in the West, or East either, for that matter. He has for sale some choice young cows with calves at foot, also young bulls and Berkshire hogs.

G. C. Keesecker, a former resident of Washington, Kan., and at one time a breeder of registered Durocs, has moved to his old farm and is again in the Duroc business. He has just purchased a number of fine sows from Howell Bros. of Herkimer, and a Jersey bull from Chester Thomas of Waterville, Kan.

J. B. Porter & Son, of Spring Hill Dairy Farm, Mayetta, Kan., owns one of the good Jersey herds. They are offering a young bull sired by a grandson of Sultan of Oaklands. His dam was a first prize winner at the Nebraska State Fair, and he is a very promising youngster and they will sell him well worth the money.

R. B. Davis of Hiawatha, Kan., wants to close out all his big Polands and offers at a bargain the following stock: The herd boar, Melbourne Jumbo, two tried sows that

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LOOKABAUGH'S SHORTHORNS. At private sale. Six or nine months' time if desired. Young heifers and bulls, \$100 and up. Two heifers and bull, not related, \$225 for the three. Others higher. High-class herd bulls close to imported Scotch dams, sired by such sires as Lavender Lord by Avondale. Nicely bred young heifers from milking strains. Young bulls, the farmer's kind. Cows with calf at foot and rebred. Great variety of prize-winning blood. If you want breeding stock, do not miss this opportunity. My foundation Shorthorns carry the blood of the best families and most noted sires of breed. Over 200 head from which to select. If you cannot come, write. H. C. LOOKABAUGH, Watonga, Blain County, Oklahoma.

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High-Grade Cattle—High-Grade Farmers The pure-bred Jersey Cow

is one of the most high-grade animals ever developed by man. The high-grade farmer demands the high-grade cow. No breed equals the Jersey for the economical production of high-grade milk and butter. No breed equals the Jersey for intensive farming. Send for information to THE AMERICAN JERSEY CATTLE CLUB 324 W. 23d Street, New York

WEST VIEW JERSEY FARM

Herd Bulls—Financial Countess Lad, the only national champion whose dam, Financial Countess, was also national butter champion. Ruby's Financial Count, Register of Merit dam with milk record of 56 pounds per day, sire a Register of Merit son of Financial King. Cows in calf to Financial Lad for sale. J. E. JONES, Proprietor, Nowata, Okla.

Bank's Farm Jerseys

Quality with milk and butter records. One of the best sons of CHAMPION FLYING FOX, imported, at head of herd. Stock for sale. W. N. BANKS, Independence, Kan.

REGISTER OF MERIT JERSEYS.

Offer a fine young cow in milk and bred to Oakland's Sultan for \$150. Also a granddaughter of Golden Fern's Lad bred to same bull, \$200. Choice heifers, \$100 up. Bulls from high-testing dams, \$50 to \$150, including a son of Gumboge Knight. R. J. LINSOTT, Holton, Kansas.

GREEN HILL JERSEY FARM

For Sale—Several young bulls up to 15 months old, sired by Viola's Majesty. Dams, American and imported cows of choice breeding and individuality. D. LEE SHAWHAN, Lees Summit, Mo.

JERSEY CATTLE FOR SALE.

Choice young bulls by Golden Fern's Lorne out of 45-pound dams. Also eight choice cows and heifers in milk and springers. All registered. D. A. KRAMER, Washington, Kansas.

BENFER JERSEY CATTLE.

A few bull calves for sale, sired by Sultan of Comfortholm. Dams of Golden Lad breeding. Also high scoring S. C. White Leghorn cockerels. E. L. M. BENFER, Leona, Kansas.

GOLDEN RULE JERSEY FARM

Headed by the Island-bred bull, Cicero's Rochette Noble. One choice registered cow bred to him for sale. Johnson & Nordstrom, Clay Center, Kan.

ANGUS CATTLE



CHOICE REGISTERED ANGUS CATTLE

Cows, heifers and young bulls. Nothing but the best. Wire, write or 'phone. R. S. WILLIAMS, LIBERTY, MO. Excelsior Springs car line route. Only 14 miles from Kansas City. Car every 45 minutes. Home 'phone 262.

REGISTERED ANGUS BULLS

For Sale—Choice young herd bulls, from best families; also registered Poland China boars and gilts of extra quality. Prices reasonable. Write at once. K. H. BROWN, Bolivar, Polk Co., Missouri.

are daughters of Gold Metal, two July gilts sired by Melbourne Jumbo, also a fine lot of fall pigs and some more sows bred for March farrow.

Lee Bros.' Percheron Sale.

Don't fail to read sale announcement of the Lee Bros.' Percheron sale to be held at Manhattan, Kan., January 27, 1914. They are selling their entire show herd and a number of regular-producing mares. The catalog is ready to mail out and it is nicely illustrated. Send for one—it is worth reading. Kindly mention Kansas Farmer when you write.

A Herd Jack.

On January 29, I. N. Greene, of Kiowa, Kan., will sell 22 head of jacks and 15 head of Jennets, including his great herd jack, Mammoth Jr., probably the largest herd jack in Southwest Kansas. He is an eight-year-old jack, full 16 hands high and weighing 1,250 pounds. He is black with white points. He is the sire of most of the young jacks in the sale, and most all the Jennets selling are bred to this herd jack. Any jack man wanting a herd jack would have a chance to see a number of his colts and also see the class of Jennets producing them. Please read ad in this issue and if interested in jack stock write for catalog or further description of this sale offering. Kindly mention Kansas Farmer.

Pearl Shorthorn Herd

Yearling bulls all sold. Have 20 bull calves, oldest a March calf. Reds, roans and red with white marks. Some of them from extra heavy milking dams. Some sired by the big roan Scotch bull, Valiant, and some by Highland Chief. Few coming two. Visitors always welcome. C. W. TAYLOR Abilene, Kansas

TOMSON BROS.' SHORTHORNS

200 HIGH-CLASS CATTLE, 20 leading Scotch families, other standard sorts also. We offer 20 heifers, yearlings and two-year-olds, choice breeding and quality; 10 select bulls of Augusta, Victoria and other Scotch families; breeding stock of all ages. Address either farm. Jas. G. Tomson, Carbondale, Kan., R. R. station Wakarusa, on main line Santa Fe, or Jno. R. Tomson, Dover, Kan., R. R. station Willard, on main line Rock Island.

Cedar Lawn SHORTHORNS

For Sale—Six choice young bulls ready for service, in age from ten to fourteen months. Good individuals and of the best known Shorthorn families. Also few big-type Poland China boars and gilts. Inspection invited. S. B. AMCOATS, Clay Center, Kan.

MARCH CALF.

Big and beefy, nice red, just right for few cows next summer. Few cows and heifers bred to our best bull. Write or come and we will show you. JEWELL BROTHERS, Humboldt, Kansas.

SEAL'S MILKING SHORTHORNS.

Eight choice young red coming yearling bulls, sired by Seal's Gauntlet, grandson of Gifford's Red Gauntlet. Same number of choice young heifers. Attractive prices for a short time. Joseph Seal, Wakefield, Kan.

TWO CHOICE SHORTHORN BULLS

Fourteen months old, sire Lord Hastings out of Scotch dams. Prices reasonable. Write us. J. M. RHODES, Topeka, Kan. Route 1, Box 144.

Dual Shorthorns, Hornless, 5415 1/2 pounds butter sold 1911. No calf tasted skim milk. Infant male calves. J. H. Walker, Lathrop, Mo.

RED POLLED CATTLE

AULD BROTHERS Red Polled Cattle Heifers and young bulls for sale. Prices right. Herd headed by Prince, one of the best sons of Actor. AULD BROS., Frankfort, Kansas.

RED POLLED CATTLE

For Sale—A choice lot of registered cows, bulls and heifers. Several herd headers. HALLOREN & GAMBILL, Ottawa, Kansas.

RED POLLED CATTLE

A few choice bulls, ready for service, priced reasonable. I. W. POULTON, Medora, Kan.

PHILLIPS COUNTY HERD OF RED POLLS.

Young bulls ready to ship. Bred cows and heifers, best of breeding. Inspection invited. Charles Morrison & Son, Phillipsburg, Kan.

RESER & WAGNER'S RED POLLS.

Richly bred herd headed by Waverly Monarch. Bulls of serviceable age all sold. Fresh cows and young bulls for sale in spring. Reser & Wagner, Bigelow, Kan.

RILEY COUNTY BREEDING FARM.

Registered Red Poll Cattle. Fifty head in herd, headed by 2,400-pound Commander 11372. Six extra choice coming yearling bulls for sale. ED NICKELSON, Leonardville, Kansas.

GUERNSEYS

ONE COMING YEARLING GUERNSEY BULL, ONE GUERNSEY BULL, CALF 6 WEEKS OLD, ONE GUERNSEY COW—All for sale reasonable. Dr. E. G. L. Harbour, Baldwin, Kan.

HEREFORD CATTLE

LANDER'S Brookside Herefords

Herd headed by Gay Lad 14th by the champion Gay Lad 6th and out of Princess 16th. Six yearling bulls and ten bull calves for sale, also seven yearling heifers, the best of breeding and choice individuals. Prices reasonable. Write or call. WARREN LANDERS, Savannah, Missouri.

JACKSON COUNTY BREEDERS' ASSOCIATION

MOST PROGRESSIVE BREEDERS OF JACKSON COUNTY UNDER THIS HEAD



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SHORTHORNS.

Oak Grove Shorthorns headed by the great bull "White Starlight" by Searchlight. Dam by Choice Goods. Every cow in herd straight Scotch. **ROBT. SCHULZ,** Holton, Kansas.

ABERDEEN ANGUS.

"**BLACK DUSTER**" heads our herd, mated with as richly bred cows as can be found. Choice cows with calves at foot, and re-bred. Also young bulls. **Berkshires. George McAdam, Holton, Kan.**

POLLED DURHAMS.

"**TRUE SULTAN**" heads herd. Shown at 9 leading fairs last year, winning 9 firsts and 8 junior championships. We are mating him with cows of equal breeding and merit. **Ed. Steglin, Straight Creek, Kan.**

HERFORDS.

HEREFORD BULLS. Choice, richly bred individuals, ready for service. Also Duroc Jersey gilts bred for spring farrow. **Percherons for inspection. M. E. GIDEON, Emmett, Kansas.**

HOLSTEINS.

SHADY GROVE HERD. For immediate sale. Four choice young bulls of excellent breeding and out of high record dams. Also three-year-old herd bull. Inspection invited. **G. F. MITCHELL, Holton, Kan.**

SEGRIST & STEPHENSON. Breeders of registered working high testing Holsteins. Choice young bulls out of record cows for sale. Farm adjoins town. **Holton, Kan.**

"**BUFFALO AQUEINALE DODE,**" son of a 24-lb. cow, heads our Holsteins. Cows are as good as we could find. Young bulls for sale later. Visitors always welcome. **DAVID COLEMAN & SONS, Denison, Kan.**

HOLSTEINS. Best of breeding and individuality. Registered and unregistered O. C. swine of the best strains. Also White Wyandotte chickens. Stock for sale. **J. M. Chestnut & Sons, Denison, Kansas.**

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BANNER STOCK FARM. Percherons headed by "Inceus," grand champion at American Royal, 1911; weight 2,240. Big registered jacks and Jennets for sale. **BRUCE SAUNDERS, Holton, Kansas.**

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Circleville, Kan.
Breeders of jacks and Jennets. Established 1881. All ages for sale. One imported Percheron and one high-grade Belgium stallion.

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Linscott Jerseys. The oldest and strongest herd in Kansas. One hundred head, consisting of cows in milk, heifers and young bulls. Reasonable prices. Island breeding. **R. J. LINSOTT, Holton, Kansas.**

FOR QUICK SALE—Jersey Herd Bull "Daisy Corona's Champion," an excellent sire of high producing heifers. Can't use him longer to advantage. Will sell cheap. **R. A. GILLILAND, Mayetta, Kansas.**

SUNFLOWER JERSEYS, headed by Imp. "Castor's Splendid," mated with real working cows. Choice young bulls of serviceable age for sale. **H. F. ERDLEY, Holton, Kansas.**

SPRING HILL DAIRY FARM Offers for sale bull dropped June 18, 1913. Sire, a grandson of Sultan of Oaklands; dam, first prize Nebraska State Fair. **J. B. PORTER & SON, Mayetta, Kan.**

"**Fontain's Valentine**" heads our choice, pure-bred, unrecorded cows in calf to this bull, for sale. **W. R. LINTON, Denison, Kan.**

DUROC JERSEYS.

Pleasant Home Farm. Choice Durocs. Headed by "K's Golden Rule," grandson of Golden Rule, dam of Tatarax breeding. Prize winning Black Langshans. Stock for sale. **George H. Klusmire, Holton, Kan.**

OAK GROVE FARM DUROCS. Headed by "Freddie M" 94761, grandson of the noted Colossal. Sows in herd of equal breeding and merit. Visitors welcome. **F. M. CLOWE, Circleville, Kansas.**

POLAND CHINAS.

MAPLE HILL POLANDS. Will sell my herd boar at a bargain. Grandson of Colossus. Fine individual. Fall pigs, either sex. Also Partridge Wyandotte chickens. **WALTER DODSON, Denison, Kansas.**

HIGHLAND STOCK FARM. Poland Chinas Shorthorns. 15 choice, big bone, spring and summer boars for sale, sired by "Expansive Wonder." Also fall boars. **BROWN HEDGE, Whiting, Kansas.**

MAHANS BIG POLANDS have both size and quality. Headed by a son of the great Expansive. Sows of unusual size and smoothness. 25 fall pigs, either sex, for sale. **J. D. MAHAN, Whiting, Kansas.**

COLEMAN'S BIG SMOOTH POLANDS. 150 in herd. Herd boars, Ross Hadley, Hadley C. Expansion, Price We Know, Mastodon and Mogul sows. Herd has tops from many sales. 20 bred gilts and 25 fall pigs for sale. Also Jersey cattle. **JOHN COLEMAN, Denison, Kan.**

P. E. McFADDEN, HOLTON, KANSAS.
Live stock and general farm **AUCTIONEER**

FRANK IAMS'

Key Buyer: Be a "Wise Guy." Buy "Show Horses" of Iams, who has crossed the ocean 50 times for horses and sold 5500 Registered Horses. Iams' 32 years of success in the Horse Business make him a Safe Man to do business with at Special Hard Time Prices. Guarantee backed by "Million Dollars."



New Importation of Horses are the "Big Noise." The "Big Black Boys" and "Hard Time Prices" make "Ikey Buyers" "Sit Up and Take Notice" and Buy Horses of Iams.

The "Peaches and Cream" Horse Importer is "up to the minute," an Expert Judge and a "Close Buyer." His 1914 Importation and his Home Bred

Percherons and Belgians are the Classiest Bunch of big-boned, real drafters of quality and finish Iams has imported or bred, and will be sold at Democratic "Let Live Prices." Owing to war scare, poor crops in Europe, "Iams' Cash," and bought in November and December when Prices are Lowest, Iams made a "Killing" and bought a top bunch of Show and Business Horses at Bargain Prices. Ikey, shy your "Progressive" Hat into the ring, buy a ticket to Iams' Horse town, and see

"Iams' Horse Show" and get his "Bargain Prices." Iams' Kind are all "Show Horses." Only Big Drafters. No Culls.

IAMS' PROGRESSIVE PRICES

and Paris and Belgian winners are the "Town Talk." Iams' "Swell Horses" and "Hard Time" prices are "business propositions" that make the "electric wheels" work fast under a "wise buyer's hat." Ikey, why worry? "Iams' selling clothes" fit all buyers. Iams has

60 - PERCHERON AND BELGIAN

Stallions and Mares, 2 to 6 years old, weight 1,700 to 2,300 pounds. All registered, approved, stamped and inspected by Governments of France and U. S., and Certificates "Stamped O. K." All sound, "Bell Ringers," "Iams' Kind" need no State Law to make "them sound." Iams sells "winners."

IMPORTED AND HOME BRED AT \$1000 and \$1400

(Few higher.) Registered mares, \$700 and \$1,000. Terms, cash or one year's time at 8%. One year's time and security at 6%. \$100 less price for cash than time. Iams pays freight and buyer's fare. Gives 60% breeding guarantee. Backed by "Million Dollars." Can place \$1,500 insurance. Iams' \$1,500 Show stallions are better than those sold elsewhere at \$5,000 to \$10,000. Iams backs up ads with a \$500 guarantee that you find horses as represented and at less price for "Toppers" than elsewhere. Never were such "big show horses" offered at such bargain prices. Write for "Eye Opener" and Horse Catalog. It has a \$1,000 bargain on every page. References: First Natl., Omaha Natl. Bank, Omaha, and Citizens State Bank, St. Paul, Neb.

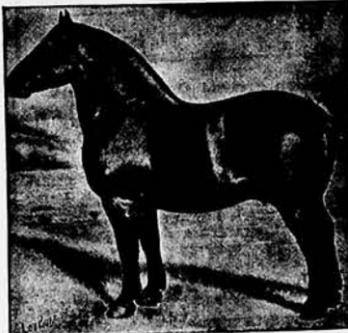
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ROBISON'S PERCHERONS

Stud headed by the champion, Casino 27830 (45462). Stallions and mares of all ages for sale. Come and see the largest pure-bred herd in the West before buying. One hundred and fifty head for sale.

J. C. ROBISON

Towanda - - - Kansas.



BREEDERS' SALE REGISTERED HORSES

400 IN COLISEUM, BLOOMINGTON, ILLINOIS, JANUARY 27, 28, 29 and 30, 1914.

300 Imported and Native-Bred Registered Percherons, Belgians, French Draft, Shire and Clydesdale Stallions and Mares.

100 Head of Imported Stallions and Mares that will land by sale day.
100 Head of Imported Stallions and Mares that have been here a year.
100 Head of the Best Registered Mares that ever went into an auction ring.
50 Head of Imported Fillies, one and two years old.

100 Reg. Stallions of the very choicest breeding and individuality.
100 Reg. Trotters GRADE DRAFT, Stallions and Mares.
100 Head Ponies Imp. and Native Bred Registered Shetland and Welsh.

D. AUGSTIN

C. W. HURT, MGR., Arrowsmith, Illinois.

Catalogue Ready January 12, 1914.

54 Percheron Stallions

We have 54 as good stallions as can be found in any herd, from coming 2's to 5-year-olds. We can sell a better and a bigger stallion for the money than any firm in the business. We fully guarantee every stallion. Write us what you want. **BISHOP BROTHERS, Towanda, Kansas.**



AMERICA'S FAMED HORSE DISTRICTS

This particular district, famed for Percherons. The Chandler herd is known for draftiness, substance and bone. Big bunch reg. studs for sale, yearlings to fours, with weight and finish equal to the French. From imported ancestry on both sides and well grown. Grown here simply means surest foal-getters and farmers' prices. Trains direct from K. C. and St. Joe. **FRED CHANDLER, R. 7, Chariton, Iowa.**



MENTION KANSAS FARMER WHEN YOU WRITE.

MORGAN STALLIONS AT BARGAIN PRICES

On Account of other business must sacrifice This High Class Stock to Close out Quick

BISHOP MONOMORE—A 15½ hands 1,000-pound chestnut, a real show horse with several ribbons to his credit. Bred for a great sire and is one. Price, \$500.00.

MAJOR MONOMORE 5897—A chestnut, 15½ hands, 1,000 pounds, good gaited Morgan that will make the breed popular wherever he stands. Sires the type the market demands. Price, \$400.00.

STORM CLOUD 6860—Chestnut, 15½ hands, will weigh 1,100 pounds when matured. A brother to Gov. Nimbus that won nine blue ribbons in nine shows. He is a well bred Morgan and a prospect for a great sire. Price, \$400.00.

Also the great mule jack, **BARNEY 2D**, black, 13½ hands with lots of weight. Sires large mules with plenty of style and bone. Breeders will find this stock priced far below its actual worth.

CHAS. J. BECK, CHESTERFIELD, MO.

25 HEAD STALLIONS and MARES

The cheapest place in America to buy. A dollar saved is two earned. This is what we do for you. Home-bred stallions as low as \$300. Our imported horses, the cream of Europe, at prices unequaled on earth. Two-year-olds from 1,650 to 2,000 pounds now, with a world of bone and quality. Forty head of real brood mares, big-boned, rugged, matched pairs of blacks, grays and bays, all bred and safe in foal by our head horse. Write and see what we say. "We more than meet competition, we create it."

L. R. WILEY, EMPORIA, KAN.



BLUE VALLEY STOCK FARM

Largest importers of high-class Belgian Draft Horses in the West. Prize winners in Europe and America. Sound, acclimated and ready for service. Our American-bred stock goes back to the blood of Brin d'Or or his descendants.

Lowest prices and safest guarantee of any firm in the business. Also a few extra good Percheron stallions. Come and see us, or write. **W. H. BAYLESS & CO., Blue Mound, Linn County, Kansas.**



POLAND CHINAS



ADVANCE 60548

The mammoth 2-year-old grandson of the great Expansion is the sire of the great line of fall pigs I am offering for sale at weaning time. Either sex. The dams of these pigs are a splendid bunch of brood sows of the Black Mammoth breeding. None better in big-type Poland. Priced to sell quick. Book your order early and secure choice, mentioning Kansas Farmer.

PAUL E. HAWORTH, Lawrence, Kansas.

Spotted Poland Chinas

FOR SALE—A magnificent daughter of Budweiser three years old, due to farrow February 25 to The Spotted Hero. Has always farrowed large litters. Price, \$100. Could not be bought in a Faulkner sale for \$200. Other bred sows, gilts and fall boars for sale.

THE ENNIS FARM, Horine Station, Mo. (30 Miles South of St. Louis.)

ERHART BIG TYPE POLAND CHINAS

50 head of strictly big type Poland China pigs for sale at reduced prices for 30 days. Herd header and herd sows prospects. Sired by Major B. Hadley the Grand Champion, American Royal, 1911. Young Hadley—Giant Wonder—by A Wonder. Write today. We want to sell quick.

A. J. ERHART & SON, Beeler, Kansas.

BIG ORANGE AGAIN BOARS.

Extra good March and April boars, sired by "Big Orange Again," and "Gritter's Surprise," Dams—By "A Wonder," "Miller's Chief Price," and "Podendorf's Chief Price Again." Immuned. Priced right.

BIG POLAND CHINAS.

Six spring boars sired by Missouri Metal out of Big Logan Ex. Sows, ten fall pigs, five gilts and five boars out of same sows; sired by Chief Mogul. Prices reasonable. Write us. J. M. RHODES, Topeka, Kan. Route 1, Box 144.

TWO GOOD POLAND CHINA SPRING BOARS

Sired by U Wonder and out of Mogul sows. A few spring gilts by U Wonder and Orange Lad by Big Orange. Ninety fall pigs, will sell pairs or trios. Write us today.

DAUGHTERS OF GOLD METAL

Two daughters of this noted boar, tried and bred for spring. Also my herd boar, Melbourne Jumbo, and 20 fall pigs.

CLAY JUMBO POLAND CHINAS

Headed by the only Clay Jumbo, assisted by Big Joe, an A Wonder boar. Six choice fall and twelve selected spring boars at bed rock prices. Also gilts.

HARTER OFFERS POLAND BOARS

No fall sale. Twenty choice spring boars, tops of 35, best of breeding, \$20 each. Also five fall boars, good ones, \$25 each. Nothing but the best shipped.

BIG POLAND CHINA SPRING PIGS

Sired by Peter Mouw boars. Here is where you can get big-type pigs at a low price. Never before was there such a bargain offered. Write me your wants. Ben Badermacher, Box 13, Mulberry Grove, Illinois.

TWO HERD BOARS FOR SALE

One 3-year-old, a grandson of Big Hadley; one fall yearling sired by Mastiff by King Mastiff. Priced to sell. Geo. Haas, Lyons, Kan.

GREAT SON OF GOLD METAL

Heads our herd, mated with Utility, dam of the noted \$580 litter; Colossus, O. K. Price and Gold Metal. Fine lot of pigs out of these sows, most of them sired by Melbourne Jumbo. Inspection invited.

BIG TYPE POLAND CHINA GILTS.

Full yearlings and tried sows, bred to "Mollie's Jumbo," 74 in. long, 36 in. high and has 10-in. bone. Gilts 120 and up; fall gilts and tried sows \$30 each. They are out of big dams. W. E. Carlson, Formoso, (Jewell Co.) Kansas.

FOLEY'S EXTRA CHOICE POLANDS

Five spring boars, good ones; ten extra choice spring gilts bred for spring; also a few tried sows bred. Reasonable prices. J. F. Foley, Oronoque, (Norton Co.) Kan.

Immune Poland China Boars and Gilts.

Ten big strong spring boars, \$20 each if sold soon. Thirty spring gilts, bred, \$25 each until January 1, or while they last.

Merten's Big Smooth Poland Chinas

Headed by King Hadley 3d and Kansas Wonder, mated with daughters of Old Expansion, What's Ex, and Grand Look Jr. Stock for sale.

BRED SOWS FOR SALE.

I will sell a few choice Poland China brood sows, sired by Missouri Governor and bred to a son of Kansas Hadley by Big Hadley. A few extra good spring boars for sale. Write me. L. R. WILEY, SR., Elmdale, Kan.

Faulkner's Famous SPOTTED POLANDS.

We are not the originator, but the preserver, of the Old Original Big-Boned Spotted Poland. Write your wants. Address:

ARKEL'S BIG SMOOTH POLANDS.

Eight good big smooth spring boars still for sale, mostly by First Quality, others by Pan Look, out of our big sows. Popular prices. Jas. Arkell, Junction City, Kansas.

FIFTY IMMUNE POLAND FALL PIGS

Extra choice, either sex, sired by the great King of Kansas, and out of mighty big sows. Attractive prices.

SPOTTED POLAND CHINAS.

June and October Boar Pigs for Sale. A. S. ALEXANDER, Burlington, Kan.

POLAND CHINAS

PECKHAM'S IMMUNE BIG POLANDS. Six fall and spring boars; 25 tried sows; fall yearlings and spring gilts. Big and smooth. Want to sell half of them. Take your choice. All tried sows bred to the great "Blue Valley Gold Dust;" gilts sired by him. Inspection invited.

R. J. PECKHAM, Pawnee City, Nebraska.

WONDER POLAND CHINA HERD Headed by Model Wonder, assisted by a son of Blue Valley. Mated to as big sows as can be found. We offer spring gilts by first named boar and bred to the other one at reasonable prices.

O. R. STRAUSS, Milford, Kan.

POLAND CHINAS. Spring pigs, one yearling boar Meddler breeding. All immune. Sable & White Stock Farm, Seward, Kan.

CLARK'S EXTRA BIG SMOOTH POLANDS. Choice spring boars for sale by a grandson of the noted A Wonder. Also bred gilts and fall pigs.

L. L. CLARK, Meriden, Kansas.

HAMPSHIRE HOGS

HIGH QUALITY HAMPSHIRE. Spring Boars and Gilts, sired by prize-winner T. R. Fancy. Will sell Mollie 5th, one of my best sows, due to farrow October 12.

S. E. SMITH, Lyons, Kansas.

ECLIPSE FARM HAMPSHIRE. Bred sows, spring and summer pigs for sale. A. M. BEAR, Medora, Kansas.

HAMPSHIRE HOGS. Bred sows, spring pigs, pairs or trios not akin. Pat Malloy and General Allen blood lines. Prices reasonable. F. O. Wittorf, Medora, Kan.

OHIO IMPROVED CHESTERS

Crystal Herd O. I. C's

Headed by Frost's Buster 29745 by Thea 30442. A few choice boars by this great sire, \$25 while they last. Will weigh 225 pounds and up. Bred gilts, March farrow, \$35 to \$50. Gilts bred to Frost's Buster, Expectation, and Illustration. They are the kind that win the ribbons.

DAN WILCOX, Cameron, Mo.

FROST'S O. I. C's

FOR SALE—Ten good spring gilts, 70 fall pigs in pairs or trios not akin. All sired by prize winners. Address:

S. D. & E. H. FROST, Kingston, Mo.

WOLFE'S O. I. C. SWINE. Large, prolific kind, March and April boars. Gilts bred or open. Fall pigs. Prices low. Pedigrees free. Write your wants.

D. W. WOLFE, Route 2, Carrollton, Mo.

O. I. C. SWINE Harry W. Haynes, Meriden, Kansas.

AUCTIONEERS.

Be an Auctioneer

Travel over the country and make big money. No other profession can be learned so quickly that will pay as big wages. Write today for big free catalog of Home Study Course, as well as the Actual Practice School, which opens January 5, 1914.

MISSOURI AUCTION SCHOOL Largest in the World. W. B. Carpenter, Pres., 1400-1404 Grand Ave., Kansas City, Mo.

Col. Jas. T. McCulloch Live Stock and General Auctioneer. Ten years of study and practice selling for some of the best breeders.

R. L. HARRIMAN LIVE STOCK AUCTIONEER Bunceton, Missouri.

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Col. C. A. HAWK Live Stock and General Auctioneer. Effingham, Kansas.

L.R. BRADY Fine Stock Auctioneer. Ask those for whom I have sold. Manhattan, Kansas.

Col. Jesse Howell Live Stock and General Auctioneer. Up-to-date methods. Herkimer, Kan.

DUROC JERSEYS

TATARRAX HERD DUROCS

Some choice gilts by Tattarrax and G. M.'s Tat Col., bred for late April and early May litters, at reasonable prices.

HAMMOND & BUSKIRK, Newton, Kansas.

PUBLIC SALE

JACKS, JENNETS, HORSES, CATTLE

Thursday, January, 29, 1914

EIGHTY-TWO JACKS, JENNETS, MULES AND HORSES.

22 Head of Jacks 15 Head of Jennets
25 Head of Horses 20 Head of Mules

NINETY-FIVE HEAD OF CATTLE

15 Head Jersey Cows 10 Head of Calves
70 Two-Year-Old Steers

The 22 head of jacks range in age from weanlings to 8 years old. There are nine head coming 3 years old, six head coming 2 years old, and five weanlings. At the head of the bunch is a herd jack, black with mealy points, 16½ hands high, very heavy boned, one of the very best to be found anywhere, good enough to head any herd of jennets anywhere. There is one 5-year-old brown jack 15½ hands high and a good one. Fifteen head of jennets, good ones, all young and in foal. One jennet and jack colt by side. Twenty head of mules, from weanlings to 7 years of age.

One Registered Trotting Stallion, 3 years old, black, weighing 1,200, well broke, a fine single driver. He is by Thornfield, with a mark of 1:10½, and is a beauty with fine prospects as a trotter and breeder. One Percheron stallion colt coming 2 years, a fine one, very large, sire and dam both imported stock. He is registered and is one of the best colts you will find for his age.

I. N. GREEN, Owner, Kiowa, Kan.

DUROC JERSEYS

HILLSIDE DUROCS. 20 March boars sired by Dandy Model by Dandy Lad—Dandy Model's litter brothers won first and second at Kansas and Oklahoma State Fairs last year. Priced reasonable.

W. A. WOOD & SON, Elmdale, Kan.

GOOD ENUFF AGAIN KING

Sensational grand champion, and Crimson Wonder 4th, second prize at Kansas Fair, 1913. Fifty head great sows and gilts sired by and bred to these two great boars.

W. W. OTEY & SONS, WINFIELD, KAN. "The Men With the Guarantee."

DUROCS OF SIZE AND QUALITY

Herd headed by a son of B. & C.'s Col. Immune spring boars and gilts of Tattarrax, Col., Ohio Chief and Neb. Wonder breeding at farmers' prices.

JOHN A. REED, Route 2, Lyons, Kansas.

MODEL AGAIN Duroc Boars, \$10. Bred Gilts, \$25.

R. W. BALDWIN, Conway, Kansas.

BELLAIRE DUROC JERSEY HERD.

Immune boars for sale. Orders for immune gilts to be bred December and January to my two best herd boars. Also September pigs, all immunized, double treatment.

N. D. SIMPSON, Bellaire, Kan.

CLEAR CREEK DUROCS

Headed by Clear Creek Col., grandson of Dreamland Col. No stock for sale at present time.

J. R. JACKSON, Kanopolis, Kan.

SHUCK'S RICHLY BRED DUROCS.

Fifty Fall Pigs, both sexes, sired by Model Chief and other noted sires. Thrifty and richly bred. Low prices for quick sale.

DANA D. SHUCK, Burr Oak, Kan.

MARSH CREEK IMMUNE DUROCS

Headed by Crimson Defender. Boars all sold. Reserving best gilts for my March 5 male. Something choice to offer a little later.

R. P. WELLS, Formoso, Kan.

DUROC JERSEY BOARS of early spring farrow,

sired by Joe's Price 118467, a son of Joe, the prize boar at the World's Fair, out of large mature dams. Will ship on approval. Prices very moderate.

HOWELL BROS., Herkimer, Kan.

GOLDEN RULE DUROC JERSEYS.

Twenty spring boars, tops of entire crop. Sired by Dreamland Col. and River Bend Col., out of big mature sows. Priced to sell.

LEON CARTER, Asherville, Kan.

QUIVERA PLACE DUROCS.

Herd headed by Quivera 106611 assisted by M. & M.'s Col. 111095.

E. G. MUNSELL, Prop., Herington, Kansas.

IMMUNE DUROCS—Fifty big-type sows and gilts,

fall boars and spring pigs. Choice breeding and guaranteed immune from cholera. Inspection invited.

P. I. NELSON, Assaria, Saline Co., Kan.

When writing advertisers, please mention KANSAS FARMER.

BERKSHIRE HOGS

BERKSHIRE PIGS

Choice pigs, 10 to 16 weeks old, either sex. Sired by Robin Hood, Premier 2d, or Adam, a son of Rival's Lord Premier. Nothing but the very choicest specimens shipped. Price, registered, crated, F. O. B. here, one, \$20; two, \$35; three, \$50.

W. J. GRIST, Ozawkie, Kan.

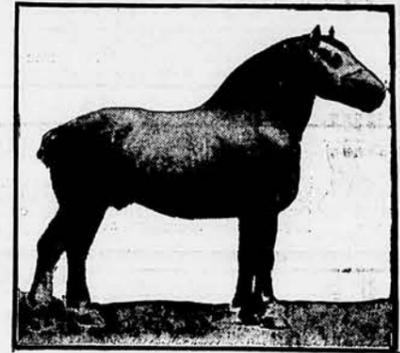
40 — BERKSHIRE BOARS — 40 Cholera Proof (Hyper-Immunized)

Big and growthy. Ready for service. Prices, \$25 to \$50.

SUTTON FARMS, Lawrence, Kansas.

HORSES AND MULES

IMPORTED MARES AND STALLIONS



Importation arrived October 1, 1913. I have personally selected the best young stallions and mares I could buy in France and Belgium, two and three years old. They all have good breeding quality, sound and good colors, and will make top horses. Every horse absolutely guaranteed. If you are looking for a first-class stallion or a good pair of mares, come and see me. I mean business. My barns three blocks from Santa Fe depot.

W. H. RICHARDS Emporia, Kansas

JACKS AND JENNETS

20 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned, broken to mares and prompt servers. A few good jennets for sale. Come and see me.

PHIL WALKER, Moline, Elk Co., Kansas.

PERCHERONS FOR SALE

My entire herd. All line bred Brillants. Mares, Lulu and Fancy; two-year-old filly, Goldust; stallion, Teddy R., coming four; two 2-year-old stallions, two suckers, both stallions. All recorded.

Stallions have certificates from Stallion Registry Board of Nebraska. All sound.

H. C. STRYKER, Rising City, Nebraska.

JACKS AND JENNETS.

Eighty large-boned black mammoth jacks, 15 to 16 hands standard, guaranteed and priced to sell. The kind all are looking for. Also good young Percheron stallions. Reference, banks of Lawrence. Forty miles west of Kansas City, on Santa Fe and U. P. Railroads.

AL E. SMITH, Lawrence, Kansas.

OSAGE VALLEY JACK FARM.

Sixteen jacks, from 4 months to 3 years old. Yearlings up to 15 hands, standard. One jack just turned 3 years old, weight 1,050. Forty jennets in herd, second to none, some for sale. Twenty years a breeder.

W. D. GOTT, Xenia, Bourbon County, Kan.

Kentucky Jack and Percheron Farms. Big bone Kentucky mammoth jacks; Percheron stallions, mares, saddlers. Special prices in half car or carload lots. Write for catalogs. Cook & Brown, Lexington, Ky.

MULE FOOT HOGS

GRAFF'S MULEFOOT HOGS. One hundred head, sows, gilts and boars. All ages. Prices reasonable.

ERNEST E. GRAFF, ROSENDALE, MO.

The Greatest Percheron Sale of the West

MANHATTAN, KANSAS, JANUARY, 27, 1914

At The Kansas State Agricultural College, Sale Pavilion

40 - Percherons Imported and American Bred **Stallions, Mares, Colts - 40**

Including our entire show herd 1913 champions.

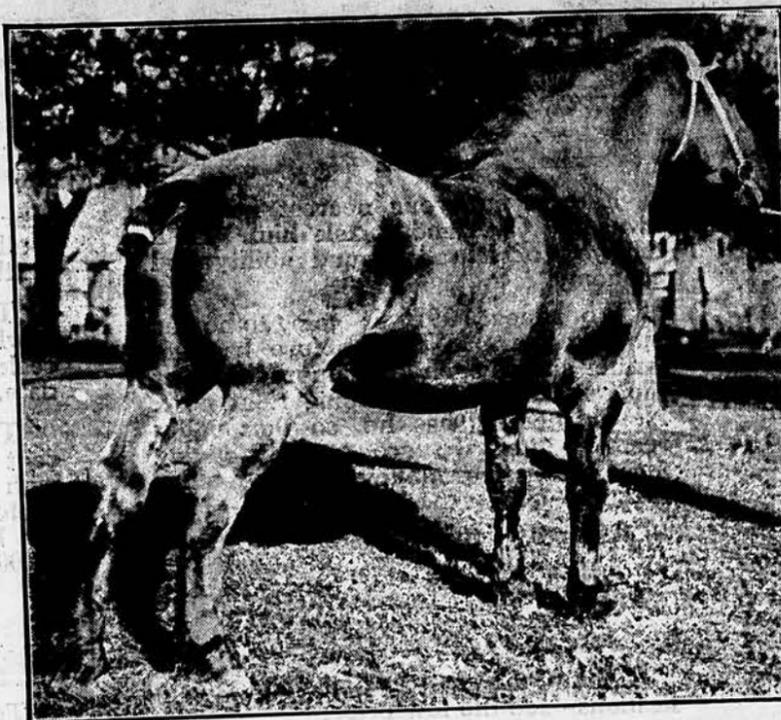
Twenty-two Mares

Bred to the champion, Scipion 27123 (43677), champion of France and America and made champion of Kansas State Fair, 1913, at the age of sixteen. Also colts sired by Scipion.

Fifteen Stallions

Including two of our 2-year-old 1913 show stallions, weighing over 2,100 pounds each.

The mares Marcellene and Flora were placed first and second in every show, also undefeated harness pair.



REINHARD—A TWO-YEAR-OLD PERCHERON STALLION THAT WAS FIRST AT KANSAS AND MISSOURI STATE FAIRS, AND FIRST AT AMERICAN ROYAL. THREE TIMES RESERVE CHAMPION STALLION OF 1913. WILL BE SOLD IN SALE.

Madeline and Moneta were first and second in each show in yearling classes. Neta is our undefeated under-a-year filly by Scipion.

Reinhard, the reserve champion of four shows, no doubt the greatest two-year-old stallion that will go through the sale ring in the United States in 1914.

Our Show Record

Thirty-two Champions and Reserve Champion out of a possible 44 chances. One-hundred-thirty First or Blue Ribbons out of a possible 145 chances.

For catalog or other information address **LEE BROTHERS, Harveyville, Kansas**
Auctioneers: Harriman, Snyder, Brady and Crews.

POLAND CHINA Bred Sow Sale

South Mound, Kansas
Tuesday Jan. 20, 1914

47 HEAD THE TOPS FROM 100 HEAD 47

36 LARGE YEARLING GILTS.

11 TRIED SOWS THAT HAVE RAISED LITTERS.

The **Gilts** are sired by Expansion Ex. by Big Logan Ex., Missouri Metal, Giant Mogul, Standard Wonder, Topsy's Chief, Orphan Chief, Big Lige, Dan Hadley, and other good boars, and are bred to O. K. Lad by Pawnee Lad.

The **Sows** are all from the best families of large-type breeding. This is a clean lot, and in good condition.

Send for catalog and come to my sale. Everybody invited to attend or send a bid to O. W. Devine, representing Kansas Farmer, in my care.

Roy Johnston, South Mound, Kansas

Lamer's Percheron Stallions and Mares Fifty head to select from. Let me know your wants. **C. W. LAMER, Salina, Kan.**

FIELD NOTES

Kramer's Registered Jerseys.
This week we start advertising for D. A. Kramer, Jersey cattle breeder of Washington, Kan. Mr. Kramer owns one of the finest little herds of registered Jerseys to be found in Northern Kansas. His herd bull, Golden Fern's Lorne, was sired by Silverine's Lorne, the 1,700-pound son of the great show bull, Silverine's Lad. The dam of Mr. Kramer's bull was a quite noted cow, a granddaughter of Golden Fern's Lad, and has a record of 500 pounds of butter in one year with her second calf. Mr. Kramer started in the Jersey business by buying a couple of extra choice cows, one of them Sunflower, a granddaughter of Imp. Flying Fox. Sunflower has one of the best udders

are five and six years of age. One is 15% hands and the other 16% hands high. He is also offering some choice Durocs. He owns Model Queen, the grand champion at Nebraska and Kansas state fairs, 1910. Look up his card and write him, mentioning Kansas Farmer.

A Promising Young Holstein Bull.
F. J. Searle, of Oskaloosa, Kan., owner of the famous Sunflower herd of Holsteins, writes that he has sold, through Kansas Farmer, a very promising bull calf to I. A. Maupin of Derby, Kan., for \$260. This calf, Sunflower Pieterje Walker, was sired by Mr. Searle's senior herd bull, Tirania Lady Aouda 5th King, a full brother to the world's record heifer with first calf, Tirania Lady Aouda 5th A. Her 7-day butter record was 32.3 pounds; milk, 551.9; average fat,



ONE OF L. R. WILEY'S TON STALLIONS.—VISIT HIS BARN AT EMPORIA, KAN.

ever seen on any cow and has a record of 45 pounds of 5 per cent milk daily for a period of three months. Mr. Kramer offers for sale a 11-months-old son of this cow, sired by Golden Fern's Lorne. The other cow used in founding the herd is the cow, Pinkie Gold, a very intensely-bred St. Lambert cow. These cows, together with their descendants, make up the herd. They all have good milk records and are nice fawns in color. Another very choice young bull now almost a year old is by the herd bull and out of Pinkie Silver, a young cow that gave 38 pounds of milk with her first calf. These bulls, together with the females offered, will be priced reasonably. It is preferred that prospective buyers visit the herd and see for themselves. The farm is only a mile from town.

4.66 per cent. He also has 45 other high-record sisters. Sunflower Pieterje Walker's dam is Leda Hartog Pieterje Queen, a young cow with her third calf and one that has milked continuously since she was 15 months old. Last January she made in seven days, 13 pounds of butter, and was placed on semi-official test and in 328 days produced nearly 400 pounds of butter.

Motorcycle Free.

If you would like to own one of the new 1914 model two-speed motorcycles, low gear, neutral and high-speed clutch, or one of \$500 in valuable prizes, just send your name and address to Contest Manager KANSAS FARMER, Topeka, Kan. Send no money. It costs you nothing to enter this contest.

Attention is called to the advertisement of Louis Koenig, of Solomon, Kan. Mr. Koenig is offering two Jacks for sale. They

Overland

Completely Equipped. J. O. B. Toledo

1914—A Bumper Overland Year

FOUR years ago the Overland passed into the hands of its present owners. During this same time many other automobile manufacturers have come and gone—flared up and out. But our progress has not only been phenomenal, but strong and healthy. Each year our sales have increased by millions. In the last four years we have accomplished more, done a larger business and given the farmer more car for less money than any other automobile manufacturer in the world.

All this is a matter of record.

This is going to be our banner year. We are producing 50,000 cars, and the largest portion of this great output is going to the American farmer.

Farmer's Now Using 65,000 Overlands

The farmer consumes more automobiles and more Overlands than all the rest of the world put together. Today 65,000 Overlands are giving satisfactory service on American farms and ranches. And if ever an automobile must "deliver" it's on or around the farm.

One of our largest western distributors has contracted for 5,000 Overlands. This is significant and typical of the west. He would take more if we could supply them.

Like as not your nearest neighbor owns an Overland. Ask him. He'll tell you of its all around ability and economy.

We repeat, 1914 is going to be our bumper year. Never before has the farmer shown such keen appreciation of the Overland as he is doing right now. Never before has he so thoroughly realized that we are actually giving more car for less money than any other manufacturer in the business.

And why not?

Larger In Every Respect— But Lower In Price

Look at the car—read the big specifications—see the low price.

A wheel base as long as on most \$1200 cars.

A motor as large and as powerful as the power plant in most \$1200 cars.

A car as large, roomy and comfortable as most \$1200 cars.

Tires as large as you find on the average \$1200 car.

Electric lights—even under the dash—deep upholstery, an unusually heavy frame, a large steering wheel, Timken and Hyatt bearings, three-quarter floating

Read The Big Specifications

Electric head, side tail and dash lights
Storage battery
35 horsepower motor

114-inch wheelbase
Three-quarter floating rear axle.
33 x 4 Q. D. tires

Cowl dash
Brewster green body, nickel and aluminum trimmings

Deep upholstery
Mohair top, curtains and best Rain-vision, Clear-vision windshield

Stewart speedometer
Electric horn
Flush U doors with concealed hinges

With electric starter and generator \$1075—J. O. B. Toledo

The Willys-Overland Company, Toledo, Ohio

Manufacturers of the famous Garford and Willys-Utility Trucks.

Full information on request.

