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KANSAS FARMER

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FARMERS ADVOCATE

Volume 47, Number 32.

TOPEKA, KANSAS, AUGUST 14, 1909.

Established 1863. \$1 a Year

The Inoculation of Alfalfa Fields

By H. F. ROBERTS.

With all of our advancement in agricultural knowledge, it is surprising how little we actually know as yet about the soil and what it contains. We understand a great deal about the plants that we see above the ground, while beneath the surface of the soil is a world of plants that we know very little about, but concerning which we have at least learned that their influence on the soil and on the agricultural plants that have their roots in the soil is very profound. These soil plants are what the botanist call "fungi," and the greater number of them are members of the group of the bacteria—microscopic forms of plant life that we often hear spoken of as "germs," "microbes," etc. Among these bacteria living in soil are such deadly species as the tetanus bacillus, which causes lock-jaw. By far the overwhelming number of the soil bacteria, however, are not merely harmless, but positively beneficial.

By the researches of the last three decades especially we have gradually grown to realize how immensely complex are the processes of chemical activity carried on beneath the surface of the ground by these organisms, and how dependent the business of growing crops is upon the kind and the abundance of the soil population, and how in turn the presence of these colonies of bacteria is influenced favorably or unfavorably by the chemical composition of the soil, the physical nature of the soil particles, the drainage and aeration of the ground, both naturally, and as influenced by cultivation and tillage.

SOIL BACTERIOLOGY.

Indeed, we are today but on the threshold of a knowledge of soil bacteriology, which, when fully grasped and scientifically utilized in practise, will put us in command of agricultural resources as yet undreamed of. This new knowledge into which we are gradually growing by investigation and experiment will make every intelligent farmer an agricultural engineer. He will command the working of the soil upon his crops, within certain natural limits, as the operator commands the movements of the automobile of the steam engine. In other words science is going to make farming, in part at least, an exact and clear cut laboratory business in which one of the main problems is going to be how to liberate the greatest possible amount of food from the soil to the roots of plants by means of the activities of the swarming hosts of bacterial life. To what extent does our present state of information enable us to do this today? We are dealing today with one of the most important problems in agriculture, the growing of a leguminous crop, to the greatest advantage to the land and the greatest profit to ourselves. It is for many generations, centuries indeed, that farmers have known in a practical way, that papilionaceous plants, leguminous, or to speak more simply, legumes, cut a very important figure in farming, and always of great advantage to grow, both because of their special nutritive value, and because of their fertilizing influence upon the soil, especially when plowed under as green

manure, but also when the land is cropped in the ordinary way. It has also been observed for a very long time that almost all plants of the legume family bear upon their roots nodules or tuberculous swellings or outgrowths. Perhaps the first recorded observation of this fact was made as far back as 1587 by a French botanist, Daleschamps, in a Latin botanical work. From time to time since then, various observations were made upon these structures, which were quite commonly regarded as galls. A German investigator names Lachmann, in 1858, seems to have been the first to discover the rod-shaped bodies within the tubercles, which were afterwards found to be the bacteria whose activities cause the tubercles to grow. Lachmann also suspected that these nodules might have some connection with the supposed ability of the leguminous plants to absorb free nitrogen from the air. Perhaps he was the first person to light upon this suspicion. But in his day, long before the dawn of modern bacteriology, it could be and remains but a guess.

The next stone in the edifice of our knowledge was laid twelve years later by the great Russian botanist, Woronin, who saw and described more clearly the bacteria in the tubercles and was the first to credit them with being the cause of the development of the tubercles themselves. In 1875 and 1879, it was discovered for the first time by Frank and Kny in Germany and by Prillieux in France, that the formation of tubercles could be prevented by sterilizing the soil and that hence their formation was due to infection from without by microbes living in the soil. Finally in 1886 came the crowning discovery by Professor Hellriegel and his associate, Dr. Wilfarth, of the agricultural experiment station at Bernberg in Germany, that the superior power of acquiring nitrogen long recognized as existing in leguminous plants, was due directly to the tubercles, or rather to the bacteria within them, which possesses the remarkable ability to fix or combine the free atmospheric nitrogen of the air, building it up into the fertilizing nitrates.

We now come to the period of experiments in soil inoculation. As early as 1887 and 1888 Salfeld in the experiment station at Bremen and Hellriegel at Bernberg inoculated strips of land planted to leguminous plants, with soil from ground in which tubercle-bearing crops of the same species had been growing. The results were astonishing. The inoculated strips were greener and more luxuriant in growth, and could easily be distinguished by the eye at a distance, from the uninoculated strips. Well, the practise of soil inoculation grew apace, and it was not long before the idea was developed of inoculating with pure cultures of the tubercle organism grown in the laboratory. There are certain disadvantages in inoculating with soil. If the soil has to be transported for any distance, it becomes expensive, while there is always some danger of bringing weed seeds and fungi causing plant diseases into the inoculated field. The fact remains, however, that the soil method still continues to be the most certain and uniformly successful one, and wherever it can be conveniently carried out, it is still to be recommended in preference to any other.

SOIL SHOULD BE TAKEN FROM AN OLD ALFALFA FIELD.

The soil in question, in the case of the inoculation of alfalfa, should be taken from an old alfalfa field in which the roots of the plants are seen from actual inspection to be rich in tubercles. Of course a part of the field free from weeds and diseased plants should be selected. To inoculate with soil, an application of about 300 pounds per acre is advisable. The soil should not be allowed to dry out too much, and should not be left exposed to the sun, but should be harrowed in immediately after application, in case it is simply broadcasted from the wagon and not put in with a fertilizer drill. The main things to be kept in mind are to apply the soil as soon as possible, not to let it dry out greatly, and to get it well harrowed under in order to protect it from the sun's rays which effectively destroy bacterial life. It must be remembered, that since the legume bacteria spread very slowly through the soil by natural increase, any method of inoculation, to be really effective, must involve the spreading of the inoculating soil as evenly and uniformly as possible over the field.

THE USE OF "CULTURAL MEDIUM."

Now what can the farmer do who needs to inoculate his field and who cannot easily or practically secure good inoculating soil? His recourse is then to the system of pure culture inoculation inaugurated by the United States Department of Agriculture. In the laboratory of soil bacteriology investigation, of the Department, pure cultures of the tubercle organism have been distributed for experimental purposes for several years. Here is a specimen of such a "pure culture" as sent out from Washington. As you see, it is a sealed bottle containing a faintly milky liquid. This is what is called a "culture medium," and it is swarming with bacteria. The amount in the flask is sufficient to inoculate from three to five bushels of seed when handled in the following man-



What we may expect if this record breaking keeps up.

ner: One gallon of clean water is first thoroughly boiled to sterilize it and kill any germs that may happen to exist in it. The tablet contained in the small envelope is then added to the water, which has been allowed to previously cool. Add three heaping teaspoonsfuls of granulated sugar to the



PROF. H. F. ROBERTS.

gallon. When all is dissolved, break the seal from the culture flask or break the neck of the bottle, and pour the contents into the solution. Cover the vessel from dust, and allow to stand twenty-four hours at about 70° F. The solution should now be very slightly cloudy, owing to the multiplication of the bacteria in the culture solution. If this slight cloudiness does not appear, farther time should be given, not to exceed two days. To inoculate

seed, put the seed in some clean bucket, and pour in the liquid culture gradually, stirring until all the seeds in the mass are thoroughly moistened but not very wet. One gallon will moisten from three to five bushels of seed.

PLANTING THE SEED.

Spread the seed out to dry in a shady place. Do not expose it to the sun's direct rays or the bacteria will be killed. Sprinkle the seed, while moist, with dry sifted soil, two or three quarts of soil to a bushel of seed being sufficient to make the seed dry enough to plant. Drill in the seed in the usual way, allowing for the added bulk of the dry soil. If only fifteen or twenty pounds of alfalfa seed are to be planted, pour the contents of the culture flask directly upon the seed, stir and handle as before. If by accident the inoculated seed cannot be planted at once, it can be kept, properly stored for a week or so. If desired, the culture solution can be used to inoculate soil instead of seed. In this case, mix the solution with enough soil to just moisten every particle. Then mix thoroughly this inoculated soil with a larger amount, about half a wagon load, which can be used to inoculate about an acre of ground by the method previously described.

CONDITION OF THE GROUND.

Too much emphasis cannot be laid, in the matter of inoculation by the soil method, upon the necessity of getting the ground into a uniform fine condition, well aerated, and then of putting on the application of inoculated soil as smoothly and evenly as possible. In this matter of inoculation of alfalfa fields the man who uses the greatest care in following the directions given, such as the use of clean sterilized vessels—dippers, spoons, etc., in the preparing and stirring of the culture solution; and who takes the greatest care to secure a perfect mixture of the solution with the seed or soil as the

case may be—this man will stand the greatest chance of success.

It must not be thought that failure may not occur. Stiff and badly aerated soils, sour soils and soils deficient in lime (seldom the case in Kansas) are unfavorable to the growth of the tubercle bacteria. Extreme drouth, or a long continued cold period after planting may kill large numbers of the bacteria or prevent their multiplying. A hundred and one accidents due to man and nature are always coming into play in farming and in the inoculation of soil for alfalfa there is no magic or miracle wrapped up in the bottle of the culture solution. We are dealing with microscopic living organisms of considerable sensitiveness. We are undertaking to plant them in our soil and to persuade them to grow and multiply there. In order to do this they have to have the right conditions, just as corn has to have the right conditions to insure its growth.

But now, assuming we have succeeded in our inoculation, what is it going to do for us in a practical way? In the first place it is going to enable us to grow a legume crop that will add from 150 to 200 pounds of nitrogen per acre to the soil. This is mainly added from the tubercles. While the tubercles are young the nitrates which the bacteria within them are manufacturing, are constantly drawn upon by the alfalfa plant at no consequent expense to the soil, so far as these indispensable elements of plant food are concerned. This enables the other bacteria which live in the soil and also manufacture compounds of nitrogen but which do not inhabit the roots of plants, as the tubercle organism does, to go on building up the supply of soil nitrates, which is drawn upon but very lightly where an inoculated legume crop is growing. Then when a leguminous crop is plowed under and the roots decay, all of the accumulated nitrates in the tubercles are released

into the soil. Analysis shows that the roots bearing tubercles contain from five to seven times as much nitrogen as roots free from tubercles.

In many places it is impossible to get a stand of alfalfa at all without inoculation. The New York Experiment Station bulletins state this expressly as being a fact for the state of New York. In general, even though the stand of alfalfa is excellent, the yield good and the plants vigorous on account of the rich supply of stored nitrates already present in the soil, yet, if the roots of the plants have no tubercles, it will pay to inoculate the field when plowed up and brought around to alfalfa again, for the simple reason that tubercle bacteria will supply the same nitrates from the free air as a source, and the soil will not be exhausted as when alfalfa free from tubercles is grown.

Now how can this inoculating material be obtained? The United States Department of Agriculture will furnish one of these bottles of pure culture bacteria to any applicant recommended by the Agricultural College, entirely without charge, and with full instructions as to the method of handling. All persons who send their names and addresses to me will have them forwarded to Washington immediately. Let me urge all of you who have alfalfa fields in which the tubercles do not develop, or who intended to sow alfalfa for the first time to make this slight effort to secure such a great advantage. In yield of forage, in actual percentage of nitrogen per ton of the fodder and in the saving to the soil, the superiority of inoculated over uninoculated alfalfa has been demonstrated over and over again. Such a progressive organization of prominent and representative alfalfa growers as the Shawnee County Alfalfa Club will certainly not fail to take advantage of this opportunity to spread the gospel of inoculation.

A KANSAS BARN

Herewith is shown a picture of what is believed to be one of the largest barns in Kansas, certainly the largest barn of its shape. It was recently built by Fred R. Cottrell on his farm near Irving, Kan.

The barn is 100 feet in diameter with a 10 foot stone basement containing 30 windows. The barn has a ventilator in the middle which affords ample light and a good supply of pure air. Around the outside of the floor is a 16 foot space which is divided into pens with swinging gates. Inside this is a 9 foot feed alley and inside this yet is a circular row of stalls for cattle while the central space is used for a work room, engine and grinders. The stalls are so arranged that they face the alley from both sides and make it convenient to feed the cattle, of which 300 head may be stabled in the basement at one time.

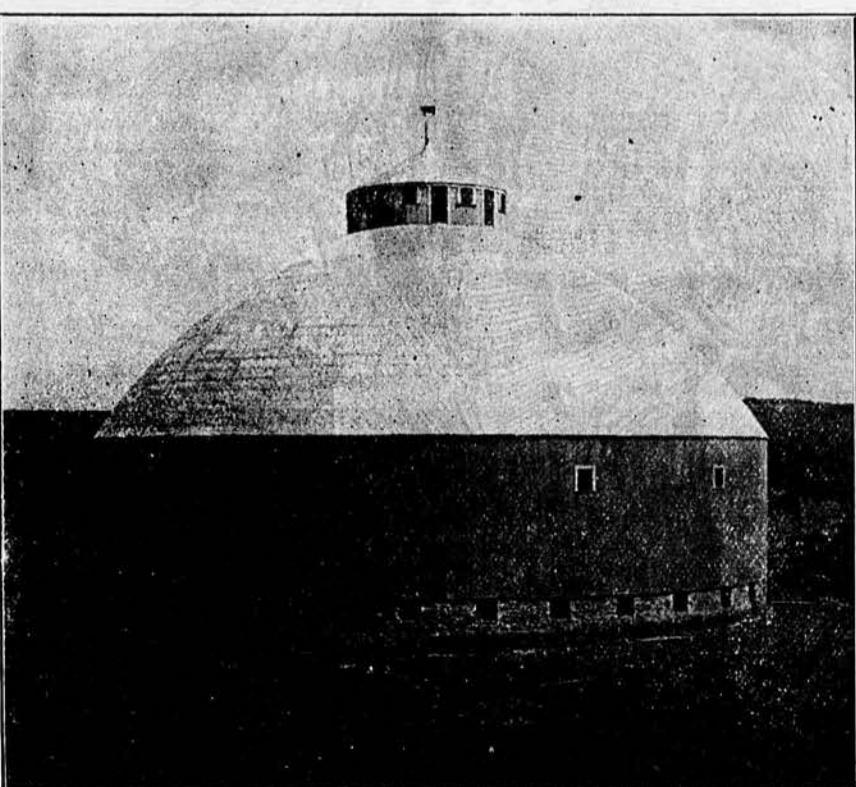
The barn is 20 feet to top of plate and the rafters have a 30 foot rise, thus making a height of 50 feet from the main floor to the base of the cupola, which is 24 feet in diameter and contains nine windows.

The portion of the barn devoted to hay will contain 500 tons, while there is room for all farm machinery and bins for 10,000 bushels of grain. The barn is fitted with two circular tracks with sling carriers.

The entire building is covered with a sheeting of fence boards, which run around it and make it very solid in construction. Outside this is a covering of the best grade of galvanized iron.

It required from six to ten men nearly seven months to build this barn and the material used in construction included 70 cords of rock, 50 barrels of lime, 5 tons of cement, 90,000 feet of lumber, 2,500 pounds of nails and 20,000 feet of iron. Crowning this structure and mounted on a steel rod which reaches 90 feet from the basement floor is an image of the old bull Governor that was so prominent in the Hereford herd belonging to Mr. Cottrell in the earlier days.

The barn was dedicated on August 3 by appropriate exercises, which were participated in by about 600 people, who braved the weather and who



seemed to enjoy the good things prepared by Mr. Cottrell and the dance which closed the dedication ceremonies. Mr. Cottrell's farm is located on the Big Blue River, where he has abundant grass land for his numerous cattle.

To Cleanse Blankets.

It is most necessary to have a fine day for washing blankets, in order that they may be hung in the air as soon as they are rinsed. It is a mistake to dry blankets indoors. They are best when dried in a gentle wind.

Blankets should not be rubbed, and soap should never be rubbed on them. The best way of dealing with them is to have a good tubful of warm water, just warm enough to feel pleasant to the hands, and make it into a good lather by melting in it one cupful of soap jelly made without soda.

Put the blanket in this, and let it soak a few minutes, while a second tub, exactly like the first, is prepared. Move the blanket up and down in the suds and squeeze and press it against the sides; then put it in the second tub and place another blanket to soak in the first tub.

Squeeze the blanket in the second water, and when it looks clean, rinse in clear warm water, being careful to get the soap well out. Each lather will probably serve for two or three blankets, but it is most important that the water should be clean.

The good color of blankets depends very much on the cleanliness of the water in which they are washed. On no account wring the blanket tightly; to do so would spoil the nap.

Shake well, then hang singly and quite straight on the line, and shake and pull the blankets several times while drying, to raise the nap. After being thoroughly dried out of doors, let them be turned about for some hours before a good fire indoors to air them.—Ex.

Last year the first shipment of range lambs came from Idaho and sold on the Chicago market for \$1.25. This year the same kind sold for \$3.75 per 100 pounds.

The American wool grower this year has had everything his own way. Little or no quibbling over prices and most of the country's clip has passed into the hands of the buyer or manufacturer. The commission men this year have played little part in the wool activities.

The Old-Fashioned Morgan Horses

"EDITOR KANSAS FARMER:—A few weeks ago I noticed in the 'New England Farmer' an article on the Morgan horse which is quoted from KANSAS FARMER. I have been much pleased to observe the recent revival of interest in the Morgan breed and I think your article furnishes evidence that this interest is not merely sentimental. If, as your article intimates, there is a demand in the Middle West for the old type of Morgan horses, such as were produced in Vermont some fifty or sixty years ago, it will give great encouragement to that little band of Vermont horse breeders who have succeeded in preserving to this day the blood and approximately the type of the famous Justin Morgan and his illustrious sons. These breeders are few but their number is increasing. The great majority of horse breeders in Vermont and the other New England states have long since yielded to the craze for speed on the trotting track or the demand for large sized carriage horses. The result has been that the true Morgan breed has been nearly lost in the state where it once flourished and the work of restoration has begun none too soon. I think, however, the opinion is now pretty well rooted in Vermont that it was a mistake to neglect the old Morgan type for the experiment of attempting to convert it into faster and larger animal and I trust that in the near future your readers who desire Morgan horses may again be able to find them in abundance on the farms of the Green Mountain state.

"I am enclosing herewith the State Fair number of the 'Vermont,' published at White River Junction, Vt., which contains two articles on Morgan horses and many photographic illustrations of horses exhibited at the Vermont State Fair of 1908.

"I will call your special attention to the picture of Willoughby Morgan who stands second in the picture, as an example of what may be had in Vermont today. Would also call your attention to the picture of Hale's Green Mountain Morgan as being the pattern which the Morgan breeders



Young General Gifford and Willoughby Morgan. The type yet to be found in Vermont.

they will be so again. Prior to the Civil War when immigration toward the West was strong, many Vermonters moved to the Mississippi Valley and brought their Morgan horses with them. They are noted for all the good qualities that a horse may possess but especially for their style, endurance and all-round utility. The craze for

speed caused the Morgan to be lost sight of in some degree although his blood has been prominent in the pedigrees of many race horses. The recent establishment, by the United States government, of a horse breeding station in Vermont and another in Colorado with the object of creating a new breed, called the American car-

riage horse, has awakened a new interest in the Morgans for the reason that the experimental work at these stations is founded upon Morgan blood.

Inquiry develops the fact that there are Morgans in Kansas in considerable numbers though many so called Morgans are crossed with other blood.

Enthusiasts tell us that it is doubtful if a better general purpose horse ever existed here than the old Vermont Morgan and the interest which has lately been aroused in the preservation of this breed seems to be spreading throughout the country. In Kansas the state fairs are offering premiums for Morgan horses indirectly in the classification for American carriage horses prepared by the government. It is hoped that visitors at Topeka and Hutchinson may have an opportunity to see representatives of this famous American breed.

Cattlemen have become alarmed at the decreased production of beef cattle in the beef territory of the West and have called a meeting to be held in Denver in January for a full discussion of the situation and the possible discovery of a remedy. Packers, live stock organizations and business interests generally will be invited to participate in the hope that a renewed interest may be awakened in this most important food supplying industry.



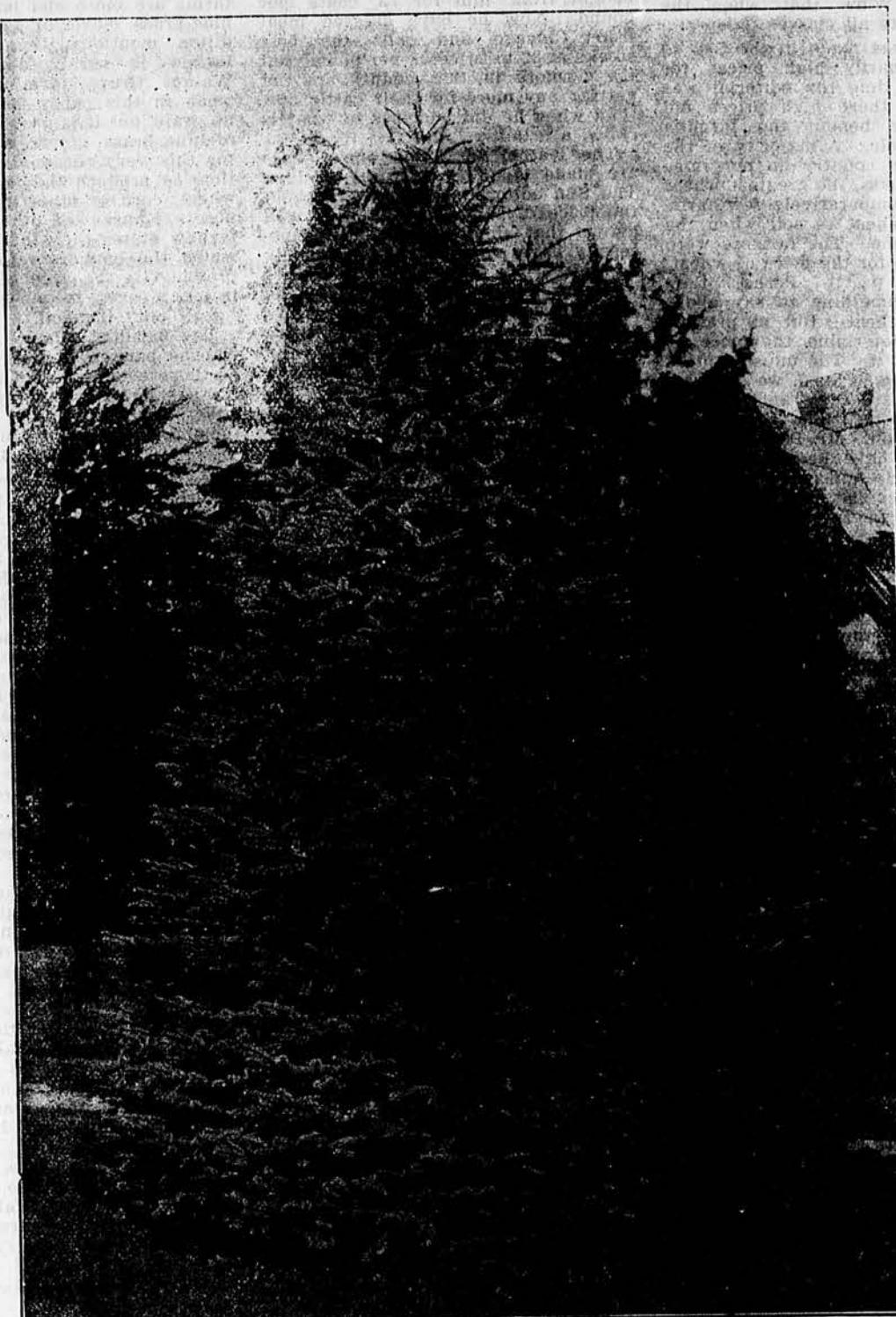
Hale's Green Mountain Morgan, foaled 1832, died 1862. The type the breeders are striving for.

are attempting to follow.

"The Vermont State Fair of 1908 was said by Vermont horse breeders to have made the greatest show of Morgan horses in forty years and there is every indication that the fair to be held next September will show a larger number. It may be of interest to your readers to know that, in addition to the regular prizes offered for Morgan horses by the State Fair Association, there are five special prizes and some silver trophies. As these money prizes are liberal and the trophies handsome it is expected that they will have the effect of bringing out the best representation of the old fashioned Morgan type that is obtainable."

Henry S. Wardner, New York, the writer of the letter quoted above, has a breeding farm at Windsor, Vt., and was the donor of the special prize money and the Morgan trophy given at the Vermont State Fair last fall for which about thirty horses competed. This year he has given more liberal cash premiums and more silver trophies in his effort to encourage these American breeders.

The old Morgan horses had their origin and development in Vermont. Their family is peculiar to America. At one time they were immensely popular and it is freely predicted that



A Colorado Blue Spruce.

In the opinion of many the Colorado blue spruce is the most beautiful of all ornamental trees. This is indeed the opinion of the writer of this paragraph. It is difficult to imagine anything more beautiful in vege-

tation than the bright blue surface of this wonderful little tree. Unfortunately the above illustration does not do it justice, because as everyone who has taken pictures knows, blue photographs white. It would add to the beauty of many of our farms if more pains were taken to grow orna-

mental trees, shrubs and flowers. It would add likewise to the satisfaction derived from the farm by the owner and his family and also to the money value of the farm. It is also true that the farmer who keeps the premises about the house attractive will do better work all over the farm.



THE FARMER NOT RESPONSIBLE FOR HIGH PRICES.

When the writer of this is in the East he always buys a copy of the New York Sun the first thing in the morning. This is so in spite of the fact that he does not like the paper. He buys it because it is interesting reading. It is often said to be the brightest paper in the country. The Sun does not look at things from the point of view of the farmer.

It is generally believed that the farmer is prosperous, and that, working hard for everything he gets, he deserves his prosperity. The Sun has a different point of view. Everyone knows that the cost of living has increased considerably during the past decade. This is accounted for in various ways, and the blame is variously placed.

The blame is not usually placed upon the farmer. But the Sun places it just there. In a recent editorial it deplored the high cost of living, expressed great sympathy with the poorer classes of people in the cities especially, and with great show of feeling roundly denounced the farmers as the real octopus. The feeling may be assumed to have been sincere. It said that the people of the country are just now awaking to this condition of things, and that they will not always stand for it. They will demand that the farmer sell his products at a reasonable price. It was claimed that the present prosperity of the farming class is at the expense of the rest of our people. This is at variance with the common view that when the farmer prospers all classes prosper.

Reference was made in the Sun to the extraordinarily high prices for wheat at the time the editorial was written. But these high prices did not materially benefit the farming class as a whole. A majority of the farmers of the country do not raise wheat. In Kansas, the greatest wheat state of all, comparatively few farmers had any wheat to sell when the high prices came. The farmers were not responsible for the price of wheat. They did not fix it. Perhaps they should have something to say about the price of wheat. But at present they do not determine the price at which they sell it. The unusual price of 90 days ago was fixed, we suppose, by an unusual scarcity and also by manipulation with which the raisers had nothing to do. Mr. Patten of Chicago may not have been wholly responsible. He declaims responsibility. Still he doubtless had more to do with it than all the wheat raisers in Kansas combined. Mr. Patten is said to have cleared \$5,000,000 out of the rise in wheat. This seems to be wrong somehow. The farmer who raises the wheat is entitled to a profit, so is the dealer who buys the wheat from the farmer. The railroad which hauls it and the miller who makes flour out of it and the grocer who retails should make some money for the service they render, but just how Mr. Patten or any one of his kind legitimately comes in for a profit of \$5,000,000 is more than the writer can understand. But the Sun isn't the kind of paper which at any time is disposed to find fault with Mr. Patten or with any operations of that kind in wheat or any other product. It chooses to lay the blame at the feet of the farmer.

The Sun also feels bitterly towards the farmer because of the high prices of meat at the present time, with prospects for still higher prices. The Sun does well to show concern. Retail prices for meat in the cities are excessively high. Meat is coming to be regarded as a luxury by many families which formerly regarded it as an every day necessity. That it should sell at a lower retail price in the cities appears to KANSAS FARMER to be most desirable. A few years ago we read with sympathy that the laboring classes in Europe could not afford meat even once a day. Well, similar conditions are already existent in this country. But here again the farmer pleads not guilty. He does not fix the prices of meat. This indeed may be said of nearly everything the farmer sells, and also of about everything he buys.

And it isn't true that the farmer is getting high prices for meat. When the writer began keeping house he bought his meat from a German butcher, a typical German, thrifty, in-

KANSAS FARMER

EDITORIAL

Published Weekly at 625 Jackson street, Topeka, Kansas, by The Kansas Farmer Company.

ALBERT T. REID, President.
E. W. RANKIN, Vice President.

S. H. PITCHER, Secretary.
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E. W. RANKIN, Business Manager.
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T. A. BORMAN, Editors.
I. D. GRAHAM.

Chicago Office—1736 First National Bank Building, Geo W. Herbert, Manager.
New York Office—41 Park Row, Wallace C. Richardson, Inc., Manager.

Entered at the Topeka, Kansas, postoffice, as second class matter.

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dustrious, honest, a good business man. He ran every part of his business. He bought his cattle on the hoof. Sirloin and porterhouse steaks were bought from him for 13 cents per pound. Now he buys dressed meat from Chicago and sells the best steaks at 22 to 24 cents per pound, but the farmers in that county are not getting any more for their cattle now than when he did business in what is called a primitive way.

The leather of which one's shoes are made is an agricultural product. The Sun editorial said nothing about the price of shoes, though it is well known that almost no articles of necessity have advanced more radically in price. The farmer sells his cattle with the hides on at practically the same prices as seven and eight years ago while hides have risen in price about 75 per cent. Here again the farmer is not responsible for high prices.

The fact of the matter is that the farmer is not selling his products at extremely high prices. He is getting good, fair prices in general for his products, and to such prices he is justly entitled. The wheat price of 90 days ago was only temporary. Prices now are around \$1.00, and that is not an excessive price. It is only a fair price.

KANSAS FARMER is an agricultural paper. Naturally it wants the farmer to get fair prices for his products. This paper does not want farm products to become excessively high in price. This is not good even for the farmer. So long as the farmer does not fix the prices of farm products there is little danger that they will be too high.

The fact is that the Sun is wrong altogether. The farmer is not the plutocrat he is sometimes currently reported to be. The farmer is doing very well, but the stories in the daily papers and in some of the farm papers are likely to give a wrong impression of the condition of the farmers of the country. It isn't true that they have so much money individually that the burden of it is keeping them awake nights.

The Sun will have to guess again as to the cause of the increase in cost of living, which is indeed a matter of grave concern to all classes of our people, the farmers included.

IS THIS TRUE IN KANSAS?

A farm paper published in Minnesota contained recently a letter from an intelligent farmer calling attention to a mistake made by many bankers in the northwestern states. The mistake is that of putting a premium on the kind of farming which depletes the soil, that is upon exclusive, or nearly exclusive, grain farming. According to this correspondent, when a farmer goes to his banker for a loan, the banker too often wants to know how much of his land is broken up and devoted to grain growing. If the greater part of the farm is de-

voted to hay or grass, no matter of what sort, the banker is slow to make the loan. Here of course the banker is wrong. The best, most profitable farms are more and more devoted to blue grass, clover or alfalfa. The condition mentioned by the Minnesota farmer is surely deplorable. The Walnut Grove farm described last week in this paper is raising almost no grain, but it is growing great crops of blue grass, clover and alfalfa, and for this very reason is ready at any time to produce the largest yields of wheat, corn or other grains. In Minnesota, Kansas and other comparatively new states the kind of farming on which the bankers referred to put a premium is the kind of farming that in many cases, in one generation, has "worn out" the soil.

The heading above asks whether Kansas bankers are as short sighted as those complained of further north? **KANSAS FARMER** is certain this is not true of most of them. Of a few of them it doubtless is true.

GROW MORE ALFALFA.

Perhaps there are but few farmers in Kansas who do not appreciate the value of alfalfa and other clovers as soil enrichers, but there are doubtless many who do not realize that their methods of growing these crops are not productive of the best results to the soil. One of the serious problems that confronts the American farmer of today is the maintenance of the fertility of his soil. It is no longer possible to leave a wornout farm and find a new and rich one by moving a few miles. We must not only preserve but actually increase the fertility of our farms in order to meet the ordinary demands of the future.

One of the ways of doing this is by the growing of alfalfa or some other legume.

Right here is where the trouble lies. We do not grow enough alfalfa nor do we allow it to remain long enough on the ground in our ordinary rotation. In present practise the alfalfa is a mere stimulant and not a permanent enricher of the soil. Perhaps not more than one-fourth or, at most one-half, the amount of alfalfa is turned under that would be necessary to supply the nitrogen taken off by the other crops in the rotation. Young plants are stimulated but the soil grows poorer.

The remedy lies in a longer rotation and the liberal use of barnyard manure. Grow more alfalfa or clover, plow it under more frequently and use a manure spreader often.

PRODUCTION OF ASBESTOS IN 1908.

According to the United States Geological Survey's report all the asbestos mined and sold in the United States in 1908 was mined in Georgia and Vermont, and the total output of the various grades was 936 short tons, an increase from 1907 of over 42 per cent. The total value of the output

of refined asbestos in 1908 was \$19,624, as compared with \$11,889 in 1907, an increase of 64 per cent.

The best asbestos yet found in the United States is near the bottom of the Grand Canyon of Arizona. It is cross-fiber chrysotile of exceptional quality. The outcrop is extensive, but as the product must be packed on donkeys about 12 miles down one side of the canyon and 4,000 feet up the other side, and thence be hauled 20 miles to the railroad, only the hand-cobbled, best grade of material can be shipped at present.

*** * ***

THE FARMER AS AN INVESTOR.

Mr. B. L. Winchell, president of the Chicago, Rock Island and Pacific railway is credited with the statement that the farmer has reached his present affluence by easy stages. For a number of years now he has been favored by nature with good crops, attended by more than ordinary good prices.

When it is taken into consideration that as a result of the harvest in this country, new wealth, running from seven to eight billion dollars every year, has been flowing into the farmer's pocket, it is easily understood what a good customer for investments he might become with the proper course of education.

To Wall street he would be an ideal patron, as he belongs to that class of investors who are not easily frightened into throwing securities back on the market. When he buys something he usually sticks to it. As he has unbounded faith in the future of the country, he is naturally an extreme optimist, and so long as he receives reasonable and regular incomes from his investments he will not be lured away from them.

*** * ***

The last Kansas legislature gave the Farmers' Institute and College Extension Department of the State Agricultural College an appropriation of \$52,500 for the ensuing two years. During the same session of the legislature an effort was made to secure the passage of the law creating the office of state highway engineer. This bill met with defeat but instead, the Board of Regents of the Agricultural College were authorized to employ a highway engineer but were given no appropriation. Kansas people were interested in having good roads and the board of regents decided that the lack of harmony between the house and senate ought not to defeat the purpose for which the good roads bill was introduced. It has therefore employed a good roads expert in the person of W. S. Gearhart, who was assistant to the State Highway Commission of Illinois and a man of wide experience. He will take up his work on September 1 and from that time until October 20 he will be ready to answer calls from county commissioners, county engineers or city councils who wish expert information and advice about road and bridge building. Following this period he will devote his attention to farmers' institute work until December 20. No charges will be made for his services as an expert but as no appropriation was made to cover his expenses, local communities who ask for his services will be expected to defray his traveling expenses. Address Supt. J. H. Miller, Kansas State Agricultural College, Manhattan, Kan., for information.

*** * ***

The Commissioners of the District of Columbia have drafted a drastic exercise measure which they will seek to have made into law by Congress next winter. At the present time no saloon can be maintained within a radius of a mile of the National Soldiers' Home, and so well has this restriction worked that the new measure will provide similar prohibited zones about four other of the government institutions. It is proposed also that every time a barroom license is issued or renewed, and they all have to be renewed every year, a majority of all the property owners and tenants in the square and in the four squares confronting that square must consent in writing; the barroom license fee is to be \$1,600 a year where it is now \$800; no saloon is to be permitted within 400 feet of any building used for educational purposes or for reli-

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gious worship; the demoralizing "growler" trade is to be prohibited; and in no case shall there be more than one saloon to each one thousand of population. Efforts have been made from time to time by temperance advocates from all over the country to have Washington make a prohibition city, but the matter never got far in Congress. With the rigid restrictions proposed, it is thought that the number of saloons will be reduced by a third, and that there will be a marked improvement in the character of those remaining.

* * *

Believing that truck growers and potato raisers are not fighting the Colorado potato beetle in the most economical and effective manner the United States Department of Agriculture has recently performed some experiments to test a variety of means and methods and find the cheapest and most effective one. The results have just been published in bulletin 82 of the Bureau of Entomology and may be had by addressing the Division of Publications, Department of Agriculture, Washington, D. C. One of the methods recommended for effectively combating this insect was to place one pound of Paris green mixed with forty to fifty pounds of lead plaster in a gunny sack and shake over the potato rows. This, however, was found to produce an acid condition of the soil which is injurious. Another method more successful was to place either Paris green or arsenate of lead in Bordeaux mixture which seems to have a beneficial effect and increase the yield when sprayed on the potato.

* * *

The Department of Agriculture received on July 30 information through the department of state that the British board of agriculture has removed its embargo against the landing of hay and straw in Great Britain from the states of Pennsylvania, New Jersey, New York, Maryland and Delaware, to take effect immediately, and that the board would now have no objections to the withdrawal of any restrictions which may have been imposed on the exportation of hay or straw from the state of Michigan. The embargo referred to was declared several months ago because of the outbreak of foot-and-mouth disease among animals in Michigan, New York, Pennsylvania and Maryland. The disease was stamped out by the government and state authorities, and the United States quarantine was removed April 24, 1909.

* * *

The recent order of the Kansas State Board of Health which abolishes the common drinking cup, is made to apply to railroad trains, railway stations and all public and private schools of the state. This order becomes effective on September 1 and is accompanied by a penalty of not less than \$50 nor more than \$500 for each violation. The attention of school boards is called to this order because they become liable if they furnish such common drinking cups or permit their use in schools.

* * *

The sixth annual meeting of the American Breeders' Association is called for December 8 to 10 inclusive. This meeting will be held in connection with the National Corn Show on December 6 to 18. Special interest will be open in the Coliseum centers in this occasion because of the prominence of the men who will be in attendance and deliver lectures on the most recent discoveries made in plant and animal life.

* * *

The State University weather report, which was first made by the late Prof. F. H. Snow in 1868, shows that the month just closed was exceptional in having fewer hot days than any preceding July though the relative humidity was above the average. This humid condition and the fact that only one July in the record had so little wind served to make the weather oppressive. Dr. Snow made this weather report for just 40 years.

TEN WEEKS FOR TEN CENTS.

KANSAS FARMER will be sent ten weeks for ten cents to any new subscriber desiring to become acquainted with the best agricultural publication in the Southwest. Old subscribers are asked to make this known to their neighbors and friends. Send KANSAS FARMER ten weeks to some of your friends and neighbors. You will be doing them a good turn that will be appreciated.

Practical Hog Feeding.

A. J. Lovejoy of Roscoe, is one of the most successful swine men of Illinois, and the following notes are taken from his addresses at the Live Stock Breeders' meeting in Urbana and at the State Farmers' Institute in Rockford:

The pig that is to be sold for meat has but a few months to live, and there should be no let-up in feeding from birth. It will begin to eat shelled corn at three or four weeks of age; and a little sweet skim-milk or a thick mush of the same material as that given the mother, is a great help to hasten growth.

Well bred or even good grade pigs should weigh 60 to 80 pounds when weaned at three months of age, and should then go on alfalfa, clover or other fresh green pasture, and have corn twice a day. Late in the summer there should be ready for them a pasture of rape, field pea or soy-beans, besides the corn. If their teeth become sore, change to shelled corn, soaked 24 hours in water, slightly salted.

It will pay to have a cool, shady place where it is rather dark, if possible, for the pigs to lie in during the heat of the day, with free access to a mixture of salt, copperas, lime and ashes. The feeder should watch closely to see that every pig is eating with a relish. If the pigs cough it is probably due to a dusty shed. Worms will also cause a cough, and if the hair becomes starring and dead in appearance, it is well to give a worm powder. Lice can be gotten rid of by dipping, and all of the market dips can be improved by adding crude oil or petroleum. The pigs will be ready for market at any age after six or eight months.

In raising hogs to be used as breeders, the object is very different. They are not to go to market at six to ten months of age, but to grow on to maturity. They should be pushed for rapid growth, but must be fed for a growth of frame and bone; not fattened on corn, but expanded by a feed rich in protein. At six, eight, or ten months of age, they should show more length of body and more scale than the market hogs, and be smooth and well covered, but not so fat as for market.

This can be very easily done by feeding a mixed grain ration, with 10 per cent of tankage or 10 per cent of oil-meal. Use corn, barley and oats ground together, mixed thickly with water, and fed at once while sweet. It is much better to mix three pounds of milk to one pound of grain. If one has no milk the next best feed is 10 per cent of tankage and have a well balanced ration.

The summer treatment of young pigs should be about the same as for the market pigs. For late summer and fall, I have made it a practise to have a field or Evergreen sweet corn to feed in the roasting ear. I begin by adding one stalk and ear for each pig in addition to his other feed; in a few days, two stalks and two ears, and gradually increase this amount to a full feed, while diminishing the other ration.

In winter the brood sows should have something to take the place of the green pasture. I know of nothing that will equal alfalfa, bright and green, run through a cutting machine. Two-thirds chaffed alfalfa and one-third shelled corn mixed together and ground in a steel bur grinder, make an almost ideal ration which can be fed dry or mixed thickly with scalding water; a little salt adds relish. It is a cheap ration and just bulk enough to take the place of grass. If one cannot have alfalfa, bright well cured clover is good. Sorghum cane is a good fall feed until heavy freezing. Mangels or sugar beets are of course very good.

It is very necessary that the brood sows have exercise, that they may bring strong litters of pigs, full of vitality. It is best to keep the same sows for several years if they have proven good breeders and careful mothers; they will raise more and better pigs than the young gilts.

Mature sows can be kept breeding, raising two litters annually, and can be carried from year to year after weaning their litters, quite cheaply, with little or no grain after the spring litter is weaned until the fall litter comes, if they can have fresh grass or other succulent feed. We should learn to produce as much of the feed as possible ourselves.



The Elastic Stitch of the Singer

Many a woman who prides herself on knowing how to sew well—on being a good seamstress—doesn't know just where her Singer is different from other sewing machines.

A stitch produced on a cheap machine is tight—unyielding—it has no elasticity whatever. The seam may look good, but if a strain is put on a garment sewed on one of these machines, the seam remains rigid.

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A BANK FOR FARMERS.

One of the strong, conservative banks of Topeka, and a farmers' bank in a real sense. Four out of seven of the directors of the German-American Bank are active farmers. We are open on Saturday until 6 p. m. for the accommodation of farmer patrons. We do a general banking business. SPECIAL ATTENTION TO FARM LOANS.

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You will find the German-American Bank a pleasant bank to do business with, combining as liberal a policy as possible in dealing with customers consistent with conservative management. The business of Kansas Farmer readers is respectfully solicited.

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KANSAS AGRICULTURAL COLLEGE HERD BOARS.
FOR SALE—Poland Chinas, Berkshires and Duroc Jerseys. The best of breeding and individuality.

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Manhattan, Kan.

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Works all horses abreast on gang sulky and disc plows, one horse in the furrow and the rest on the land, if your plow has not got a cross clevis get our frame hitch attachment.

Our prices on cars at Rockford, Ill.:	
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Horses work free—no side draft—and all pull equal. Are guaranteed. Send money with order or send for circular to

FORD MFG. CO., **ROCKFORD, III.**

3 horse wagon evener that will work on any pole, Price.....\$3.45.

Readers Market Place

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The rate for advertising in this department is low, only three cents per word each insertion. There is no more popular advertising than classified advertising. Every one reads classified ads, and just because they are classified. You can reach 50,000 farmers in Kansas and adjoining States, the best farmers on earth, through this page. All ads set in uniform style, no display. Initials and address count as words. Terms, invariably cash in advance.

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WANTED—MEN TO SELL RIDING ATTACHMENT for plows, lists, harrows. Weight 110 lbs. Clamp on beam, makes complete riding implement. Address, Plow Co., Coffeyville, Kan.

WANTED—A SOLICITOR WITH HORSE AND BUGGY to drive through the country and solicit subscriptions. Address Circulation Manager, Kansas Farmer, Topeka, Kan.

WANTED LOCAL MEN TO TAKE ORDERS for high grade western grown nursery stock. Experience unnecessary. Outfit free. Cash weekly. National Nurseries, Lawrence, Kan.

WANTED—LADY OR GENTLEMAN AS local representative in every Kansas county. Splendid chance to make good wages without great effort and no expense. Write for particulars. Address Circulation Department, Kansas Farmer, Topeka, Kan.

FOR EXCHANGE.

FOR EXCHANGE—A CHICAGO SUBURBAN lot for a draft stallion or a jockey. W. J. Yoho, 316 S. Seneca St., Chicago, Ill.

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FOR SALE—REGISTERED POLAND China sows bred for fall litters. Spring pigs, either sex. Meddler blood. O. Warrensburg, Seneca, Kan.

POLAND CHINAS, SHORTHORNS AND B. P. ROCKS—Yearling boars, sows and gilts open or bred, also fall pigs. B. P. Rock egg \$3 per 100. A. M. Jordan, Alma, Kan.

FOR SALE—DURROC BOAR, AMBITION'S Best 51073, by Ambition, winner of first at Illinois state fair last year; 3 years old and sure breeder; dam Oom Paul breeding; low price. S. S. Smith, Clay Center, Kan.

CATTLE.

FOR SALE—FRESH, YOUNG, REGISTERED, Holstein cow. Big, rich, milker. G. G. Burton, Topeka, Kan. Ind Phone 2300—Ring R.

FOR SALE—CAR LOAD OF REGISTERED Shorthorn cows and heifers, fine ones, Scotch breeding. J. J. Thorne, Kinsley, Kan.

BEAUTIFUL ALYSDALE—HOME of the red and roan Shorthorns. Prince Consort 187008, red; Master of Alysdale 241519, roan for sale. Car load of their sons, car load of their daughters, at prices less than they are worth; will sell singly; let me show them to you. C. W. Merriman, Columbian Building, Topeka, Kan.

SHEEP.

FOR SALE—SHROPSHIRE RAMS; registered and ready for service. Ernest Gifford, Beloit, Kan.

DOGS.

FOR SALE—COLLIES OF ALL AGES. Natural born cattle drivers. Pedigreed stock. Write for circular. Harry Wells, Belleville, Kan.

SCOTCH COLLIES—PUPS AND YOUNG dogs from the best blood in Scotland and America now for sale. All of my brood bitches and stud dogs are registered, well-trained and natural workers. Emporia Kennels, Emporia, Kan. W. H. Richard.

COLLIES OF ALL AGES FOR SALE— They are stock drivers, pets and home protectors. 260 head sold last year. Write for illustrated circular and prices. Would like to buy a few ferrets. Address Harvey's Dog Farm, Clay Center, Neb.

SEEDS AND PLANTS.

FOR SALE—CHOICE NEW ALFALFA seed for fall seeding; Hardy Western Kansas seed. Try our seed when you buy. You can get no better anywhere. Darr & Downing, Lakin, Kan.

FOR SALE—ALELFALFA, TIMOTHY, BLUE grass and other grass seeds, seed buckwheat, turnip seed and other seeds for fall planting. Send for prices. The Barteldees Seed Co., Lawrence, Kan.

FOR SALE—KHARKOF SEED WHEAT, recleaned and sacked F. O. B. cars here at \$1.50 per bushel. This wheat made an average of over 30 bushels this year. A. F. Huse, Manhattan, Kan.

WANTED—NEW CROP MEADOW FESCUE or English blue grass, clover, timothy and other grass seeds. Please write us when you have any to offer. The Barteldees Seed Co., Lawrence, Kan.

POULTRY.

BUFF COCHIN EGGS—HOUSEL, Jewell, Kan.

BARRED ROCKS—EXTRA FINE spring cockerels and breeding pens at half price now. Circulars. A. H. Duff, Larned, Kan.

MANURE SPREADER.

FOR SALE—A NEW MANURE SPREADER, never used, none better made. It is for sale for a special reason at considerably less than the list price. If you have been thinking of buying a manure spreader, and every progressive farmer is thinking about buying one, here is your opportunity to get an absolutely new one at a special price. Write quick. Address A. Turner, care Kansas Farmer, Topeka, Kan.

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A. A. GRAHAM, ATTORNEY AT LAW, Topeka, Kan.

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GOOD FARMS, CHEAP, IN JEWELL and Mitchell counties. Write for list. J. H. King, Cawker City, Kan.

CATHOLICS LIVE AMONG YOUR OWN people. Farms for sale near church. Circulars free. Box 601, St. Paul, Kan.

AGENTS WANTED—TO SELL LANDS in the richest valley in Mexico. J. Wiswell & Co., General Agents, Columbus, Kan.

FOR SALE—THREE GOOD FARMS—300 acres, 120 acres, 16 acre truck. For full information and description address 1001, Minneola, Tex.

FIFTY IMPROVED FARMS FORTY miles south of Kansas City, \$30 to \$75 per acre. Send for lists. J. B. Wilson, Drexel, Mo.

FARM LOANS MADE IN ANY AMOUNT from \$500 up at lowest rates and on most favorable terms. Bezier Realty & Loan Co., Columbian Bldg., Topeka, Kan.

FOR SALE—ONE THOUSAND ACRES irrigated land in the fruit belt of western Colorado. For information address E. R. Hartman, Maher P. O., Montrose Co., Colo.

10-ACRE SUBURBAN HOME IN EMPORIA, with three residences which will rent well. Good investment. Write for prices and description. Hurley & Jennings, Emporia, Kan.

FOR SALE—LIVERY BUSINESS LOCATED in thriving town in east central Kansas fine location, no opposition, no automobiles, everything first class. For particulars address W. A. Devine, Manchester, Kan.

FOR QUICK SALE—200 ACRES, FINE dairy and stock farm, \$3,500 worth of improvements, close to good town. Price \$5,500. Farms and ranches, all sizes. Write for lists. Garrison & Studebaker, McPherson, Kan.

BARGAINS—160 ACRES, BOTTOM, 110 cultivated, 30 alfalfa, good improvements orchard, timber, running water. Price \$50 per acre. All kinds and sizes. Write for our large lists. Garrison & Studebaker, Salina, Kan.

A REAL FARM BARGAIN—182 ACRES well improved, 12 roomed house, 2 large barns, fenced and cross fenced, orchard, good water. Price \$6,000. Three miles west and 1/2 mile south of Baxter Springs, Cherokee County, Kansas. A. L. Jones, Baxter Springs, Kan.

FREE HOMES FOR EVERYBODY under the homestead and desert acts. Sulphur Springs Valley, Arizona, is fast settling. Water obtained at a depth as shallow as 4 1/2 feet. As fine alfalfa land as there is in the world. For further information address the McCall Realty Company, Cochise, Ariz.

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CENTRAL KANSAS FARM LANDS—WE have large lists of choice farming lands in the Great Arkansas River Valley of Kansas ranging from \$15 to \$100 per acre, according to location and improvements. Best wheat, corn and alfalfa raising soil in the world. Every acre pays big interest on investment. Write us today for full particulars. Cooke & Grant, 16 N. Main St Hutchinson, Kan.

DUO HOLDS THE COW'S TAIL WHILE you milk. 25 cents coin. J. P. Overlander Highland, Kan.

HONEY—CALIFORNIA WHITE SAGE, extracted, case 120 lbs. delivered in U. S. \$10.80. Particulars and sample, 10 cents. R. M. Spencer, Nordhoff, Cal.

WENZELMANN PATENT UNIVERSAL Holster, handiest thing on the farm, price \$3.50. Ask your hardware dealer or address Wenzelmann Mfg. Co., Galesburg, Ill.

GENUINE BARGAINS IN HIGH-CRADE Upright pianos. Slightly used instruments: 12 Steinways from \$350 up; 6 Webers from \$250 up; 9 Krakaunes from \$250 up; 7 Knabens from \$250 up; 3 Chickering from \$250 up; also ordinary second-hand uprights \$75 up; also 10 very fine Parlor Grand pianos at about half. Write for full particulars. Cash or easy monthly payments. Lyon & Healy, 62 Adams St., Chicago. We ship everywhere on approval.

THE STRAY LIST

JULY 31, 1909.

John E. Barrett, Co. Clerk.
Taken up July 1, 1909, by J. R. Vice of Perry, Woodson County, one sow, 300 pounds, black, 2 white spots on back, 3 white feet, and white face. No mark or brand. Valued at \$15.

GRAIN GRADING RULES.
Under provisions of Chapter No. 222, Laws of 1907, the grain grading commission appointed under said act, met pursuant to published call at the governor's office in Topeka, Kan., on the 27th day of July, 1909, and established the following grades

of grain, to be known as Kansas grades, to be in effect on and after the 1st day of August, 1909.

G. W. Glick,
J. G. Maxwell,
Thomas Page,
Grain Grading Commission.

RULE 1.

Wheat which has been subjected to "scouring," or to some process equivalent thereto, or containing an objectionable amount of rye, shall not be graded higher than No. 3.

Kansas Hard Winter Wheat.

No. 1 Hard.—Shall be hard winter wheat, sound, dry, plump, and well cleaned, and shall weigh not less than sixty-one pounds to the bushel.

No. 2 Hard.—Shall be sound, dry and reasonably clean, hard winter wheat, and shall weigh not less than fifty-nine pounds to the bushel.

No. 3 Hard.—Shall be hard winter wheat sound, dry and may be some bleached, but not clean or plump enough for No. 2, and shall weigh not less than fifty-six pounds to the bushel.

Kansas Turkey Hard Wheat.

Hard winter wheat of the long berry, dark, amber colored type of the Turkey varieties shall be classed as No. 1 Kansas Turkey hard wheat, No. 2 Kansas Turkey hard wheat, No. 3 Kansas Turkey hard wheat, and No. 4 Kansas Turkey hard wheat, and inspection certificates issued accordingly, and the other specifications for each of these grades shall be the same as for Kansas hard winter wheat of the same grade.

Red Winter Wheat.

No. 1 Red.—To be bright, sound, plump, dry and well-cleaned red winter wheat, weighing not less than sixty pounds to the measured bushel.

No. 2 Red.—Shall be sound, dry and reasonably clean red winter wheat, and shall weigh not less than fifty-nine pounds to the bushel.

No. 3 Red.—Shall be red winter wheat, sound, dry, and may be some bleached, but not clean or plump enough for No. 2, and shall weigh not less than fifty-six pounds to the bushel.

No. 4 Red.—To be thin, bleached or tough red winter wheat, reasonably sound, but unfit to grade No. 3 red.

Rejected Red.—All very damp, very tough, very smutty, very musty, trashy, dirty, damaged, stack-burned or thin wheat, falling below No. 4 red.

White Winter Wheat.

No. 1 White.—To be bright, sound, dry, plump and well-cleaned pure white winter wheat.

No. 2 White.—To be sound, dry, well-cleaned, pure white winter wheat.

No. 3 White.—To be sound, dry, white winter wheat, reasonably clean. California, Colorado, Washington, Idaho and Utah Wheat.

No. 2—To be sound, dry, well-cleaned, pure white wheat, free from smut, grown in Colorado, Utah, California, Washington or Idaho.

No. 3—To be sound, dry, reasonably clean white wheat, grown in Colorado, Utah, California, Washington or Idaho.

Wheat of above description of lower grades to be classed on its merits as regular No. 4 or rejected.

Spring Wheat.

No. 1.—To be bright, sound and well-cleaned spring wheat.

No. 2.—To be bright, sound spring wheat, reasonably clean, and weigh not less than fifty-seven pounds to the bushel.

No. 3.—To be dry and reasonably sound spring wheat, not equal to No. 2, and weigh not less than fifty-five pounds to the bushel.

No. 4.—To be thin, bleached or tough spring wheat, reasonably sound, but unfit to grade No. 3 spring.

White Spring Wheat.

No. 1 White.—To be bright, sound and well-cleaned white spring wheat.

No. 2 White.—To be bright and sound white spring wheat, reasonably clean, and weigh not less than fifty-seven pounds to the bushel.

No. 3 White.—To be dry and reasonably sound white spring wheat, not equal to No. 2, and weigh not less than fifty-five pounds to the bushel.

No. 4 White.—To be thin, bleached or tough white spring wheat, reasonably sound, but unfit to grade No. 3 white.

Rejected Spring Wheat.—All very damp, very tough, very smutty, very musty, trashy, dirty, damaged, stack-burned or thin wheat, falling below No. 4.

Mixed Wheat.

All mixtures of spring, soft and hard winter wheat shall be classed as mixed wheat, and graded as follows:

No. 2 Mixed Wheat.—To be sound, dry and reasonably clean, and weigh not less than fifty-nine pounds to the bushel.

No. 3 Mixed Wheat.—Shall be sound, dry, reasonably clean, and may be some bleached, but not clean or plump enough for No. 2 and shall weigh not less than fifty-eight pounds to the bushel.

No. 4 Mixed Wheat.—Shall include mixed wheat that from any cause so badly damaged as to render it unfit for No. 3 mixed.

Rejected Mixed Wheat.—All very damp, very tough, very smutty, very musty, trashy, dirty, damaged, stack-burned, damaged or thin spring and winter wheat, falling below No. 4 mixed wheat, shall be graded as rejected mixed wheat.

Macaroni Wheat.

No. 1 Macaroni Wheat.—Shall be bright, sound, well cleaned and be composed of what is known as rice or goose wheat, and weigh not less than sixty pounds to the bushel.

No. 2 Macaroni Wheat.—Shall be sound, dry and reasonably clean rice or goose wheat, and weigh not less than fifty-eight pounds to the bushel.

No. 3 Macaroni Wheat.—Shall be inferior to No. 2, but sound, and be composed of what is known as rice or goose wheat, and may include wheat that is bleached and shrunk, and weigh not less than fifty-five pounds to the bushel.

No. 4 Macaroni Wheat.—Shall include all wheat badly bleached or smutty, or for any other cause unfit for No. 3.

Rejected Macaroni Wheat.

Rejected Macaroni Wheat.—Rejected macaroni wheat shall include all wheat that is very smutty, badly bleached and badly sprouted, or for any cause unfit for No. 4.

RULE 2.—CORN.

Bargains in Farms, Ranches & City Property

SPECIAL BARGAINS—80 acres 3 miles from Clyde, second bottom, \$50 per acre. 150 acres near Green in Clay Co., \$99 under plow, well improved, \$50 per acre. 160 acres pasture near town, \$3,500. Write for fine large list. **WALTER NELSON**, Clyde, Kan.

320 ACRES CHOICE ROOKS COUNTY LAND, \$6,800.
Nearly all tillable. Some in cultivation, 5 miles from station. **STEVENS & RUBY, Stockton, Kansas.**

COMPLETE DESCRIPTION.
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LAND AT \$20 TO \$50 per a. in corn, alfalfa and stock country; 160 miles west of Kansas City; improved ranch, 560 a. \$25 per a. You will be shown, will you look? Ask for list. O. G. PIRTLE, Wilsey, Kansas.

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240 acres smooth prairie land, 5 miles from Dodge City; price \$18 per acre. 160 acres near Perry, Jefferson County, Kansas, partly improved, price only \$40 per acre. For information write **HALE & ENGLISH, Dodge City, Kansas.**

160 ACRE farm bargain, 7 miles northeast of Ness City. Small frame house, 2 rooms, frame barn for 4 horses, hen house, small granary, good well and windmill, 75 acres in cultivation, 35 acres in wheat, one-fourth with place, 12 acres alfalfa. Land can be plowed, nearly level, 1 mile school. Price \$2,500. \$2,000 must be cash. **J. C. LOHNE & SON, Ness City, Kan.**

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365 acres, 200 acres lays gently rolling, balance quite rolling, 120 acres in corn, 60 acres timothy and clover meadow, balance blue-grass pasture with some timber, farm fenced and cross fenced, hog and sheep tight, all woven wire and barb wire on top, except about a mile of nice hedge. Located 3½ miles from town of 1,200 population. Improvements consist of a large barn 52x60, two cattle sheds, one 30x60 and the other 14x90, scales, another small barn, all the sheds and barns are newly repaired and in good condition, newly painted. House is new, just being completed, 7-room 16 foot square, with bathroom, hallway, 2 clothes closets, large porch in front and a porch at the rear, solid concrete block foundation under the house, house cost \$3,500, wash house over cellar, concrete walks, poultry house, 16 foot square, smoke house and ice house. Improvements on this property worth \$7,500. There is an air pressure water system with large stone and concrete reservoir twelve feet above ground, 1,500 feet of underground piping conveying water to five points on the farm, catching all barn lots and pastures, also water piped to the house, lavatory in kitchen and lavatory, toilet and bath in the bathroom, ample sewer system. This farm is offered for quick sale at \$76 per acre. Possession given March 1, 1910. Liberal terms if desired. Picture and plat sent on application. I have other farms larger and smaller. Write **BAZEL J. MEEK, Chillicothe, Missouri.**

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90 ACRES CREEK BOTTOM and upland, 75 acres in cultivation, balance meadow, no other improvements, 3 miles from town. Price, \$3,800. A snap, as 40 acres of it is in fine alfalfa ground. **J. S. BOYLE, Bennington, Kansas.**

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The Land Man, of Herington, Kansas, is offering a section of land with two sets of improvements, 6 miles from Herington, for \$45 per acre. 200 acres under cultivation. A snap well worth \$50 per acre.

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WASHINGTON COUNTY LAND FOR SALE.
160 acres 4 miles from county seat, one mile to school all fenced, one set improvements orchard, well, 120 acres cultivated, 40 pasture, \$50 per acre; terms on half. **W. J. GORDON, Washington, Kan.**

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MORRIS COUNTY FARM.

320 acres, 1½ miles from town, 110 acres in cultivation, 5 acres in orchard and timber, alfalfa, feed lots for hogs, balance in 3 pastures, well fenced and watered. Good house and barn, telephone and R. F. D. Price \$27.50 per acre. Write for list. **A. G. ALEXANDER & COMPANY, Council Grove, Kansas.**

80 ACRES, 90 miles east Kansas City, two miles from Ionia, poor improvements, one of the best wells, fair fencing, in four fields, 25 acres meadow, 25 of pasture and 30 of corn; on good road, free mail and close to school. A good piece of prairie land. Price \$42.50 per acre; \$2,000 for 4 yrs. at 5 per cent. List and particulars free. **J. K. McCONNELL, Ionia, Missouri.**

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160 acres, all good smooth land, 40 acres in cultivation, balance hay and pasture; one mile to good town; 6-room house, barn for 6 horses, other buildings; good water, good orchard, all fenced. Goes now for \$5,500. **J. C. WEAVER, Wakefield, Kan.**

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240 acres, house 8 rooms, barn, sheds, etc., 90 acres in cultivation, 90 acres pasture, 60 acres grass, good orchard, fine water, fine improvements, 4 miles from good town, all tillable, 1 mile to school. Price \$55 per acre.

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Some Are Getting It; Some Are Not. Are you one that is not? You can get a slice from \$10 to \$20 per acre in the wheat belt, where they have fine soil, fine climate and plenty of water if you will write **TEED & ORBISON, Jetmore, Kan.** for their list of farm lands. They have something good.

LOGAN CO. SNAP.

640 acres of good alfalfa land, well watered and corners with townsite of Ilusell Springs, Logan Co., Kan. Some alfalfa seeded this spring. A snap at \$10 per acre, easy terms. For full particulars write

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ANOTHER GREAT LAND BARGAIN.

Right in the timothy and clover belt of Kansas. This is a fine 240 acres of land situated only ½ mile from the new and growing town of Mildred in Allen Co., Kan. This is one of the finest tracts of land that I have ever listed for sale. The lay of this land is perfect and the soil is all a deep black loam that produces big crops of corn and the different small grains. On this farm there is a 1½ story house of 5 rooms, a fair barn, good corn crib and other farm buildings. It is well watered by good and never failing wells and is well fenced with wire and hedge. Mildred is the location of the million dollar plant of the Great Western Portland Cement Co., which is now completed and is giving employment to more than 200 men. About 100 acres of this farm is in corn and small grain, the balance in grass. It is the property of an estate and is offered for the low price of \$12,000. Write **J. O. SMITH, Marmar, Kan.**, Agent.

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a quick deal, list your trading property with us. We trade while the other fellow sleeps. We have exchanges for land, merchandise, live stock, or anything of value. Try us.

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GRAHAM BROTHERS,

Hello Farmers.

Look at this—157 acres of fine land, all bottom, improved; price \$90 per acre. 93 acres, all bottom, fair improvements; price \$90 per acre. 60 acres bottom, improved; price \$5,500. 175 acres, 100 bottom, improved; a fine home; price \$14,000. Bargains in city property.

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LIVE STOCK



The market for sheep is high. With only temporary depressions it has been high for the past eight years. The world's sheep and wool supply is short and it is apt to be short for an indefinite time and with range production diminishing every year there is no reason why the farmer in the corn states should not get in on the good prices that are practically certain for the cheapest animal, so far as cost of production is concerned, that can be put on the farm.

It has been demonstrated that no other domestic animal is so well adapted to restoring fertility to the soil as is the sheep. More sheep can be maintained on an acre of ground than any other domestic animal. They are the best weed eradicators that can be put into a field and will beat any hired man that can be put to cleaning fence corners of weeds. The sheep will not only clean the fence corners of weeds but will turn the weeds into profit in the way of putting flesh on the ribs of the animal and distributing the best of fertilizer over the field.

In these days the American pig makes a speedy journey from farrowing bed to scalding tub, and the aim of the judicious feeder is to add constantly to the flesh acquired while sucking, bringing the hog up to 250 to 450 pounds as early and on as inexpensive feed as possible. The young animal will naturally put on weight more cheaply than an older one, and gains after ten months cost considerably more per pound than those made earlier. A pig which is being fattened should gain from one to two pounds a day, and weigh, alive, 250 to 350 pounds when nine to twelve months old.—From Coburn's "Swine in America."

Another indication of the return of prosperity is said to be shown by the internal commerce report of the Department of Commerce and Labor. This report states that the live stock receipts during the month at seven interior primary markets was 2,952,824 head, which is a considerable decrease when compared with the figures of a year ago. This decrease in live stock affected all important centers except Kansas City which reported larger arrivals of all classes of live stock except horses and mules. The four principal Atlantic seaport cities report a decrease of over 5 per cent in receipt of live stock compared with June of 1908. In all these cases the main loss has been in hogs and cattle. The shipments of packing house provisions from Chicago were considerably smaller than those of one year ago though this is confined chiefly to fresh beef and canned and cured meats and lard, while pickled beef and hides show a heavier outbound movement than before. All this goes to show that both cattle and hogs are scarce and sure to bring higher prices.

Sheep at the Kansas State Fair.
Secretary A. L. Sponsler of the Kansas State Fair at Hutchinson writes a letter in which he makes the following very pertinent suggestion:

"I am confident that if the sheep men owning good mutton and wool sheep would make an exhibit here, they could have a very satisfactory sale of stock at their pens during the Kansas State Fair. I have had a number of inquiries which leads me to this belief. Men ask me if there will be sheep here this year that a man could buy. Of course I would not expect them to sell their highest priced sheep, but if they were to bring some good pedigree sheep, I am sure they could get rid of them at fair prices."

Can anybody tell why we do not have more sheep in Kansas? The conditions for raising them would seem to be nearly ideal.

Stamped Out of the Pig Business.

Mr. A. J. Bill of Illinois writes that the pig lots of central Illinois, and perhaps all parts of the state, now give us another vivid object lesson of a wasteful and shortsighted policy. It is well worth noting, because it is

typical of a thoughtless, unbusiness-like custom that has cost Illinois farmers millions of dollars. Corn has been high all winter, and many men have felt compelled to reduce their hog-feeding operations. Doubtless in many cases it was a dire necessity, but in many more it resulted only from a lack of knowledge and faith concerning market conditions. Some retrenchment is not so bad, but many a farmer was stampeded with the idea of getting out of the hog business that he sacrificed his brood sows, and this spring has a very small bunch of pigs or no pigs at all to fatten for the strong market ahead.

The men who are in the pig business from principle, as a permanent part of their system of farming, and who have carefully observed such situations, recognize that it is a pretty good rule to go in the opposite direction from the crowd, and that high-priced feed often brings greater profit in pork than does low-priced feed. The crowd of men who have given up pig raising under the present severe test will be getting into it again with another expensive rush when they see the regulars who have stayed in business selling the new crop of hogs at fancy prices. If we could go through this situation with our eyes open, and note the folly of sacrificing good breeding stock and the cost of such a stampede, it might be worth a great deal for future guidance.

Exclusive Corn Diet for Hogs.

Prof. W. A. Henry of Minnesota, than whom there is perhaps no better authority, sums up the results he obtained by feeding pigs on an exclusive corn diet as follows:

"We have kept hogs repeatedly at the University, starting with pigs shortly after weaning and feeding them exclusively upon corn with water. They did very well at first, gaining up to a hundred pounds pretty fairly. It is a surprise how long they can survive upon corn alone, but after they were about half grown, we found that they were deformed, they had not developed any framework. They had grown in weight, but it was fat, and we found that their bones, after we killed them, were very weak—they would break at about half the strength of pigs standing beside them, which had received ashes in addition—the ashes about doubled the strength of those pigs' bones. When we fed bone meal to the pigs, they were a little stronger than when we fed ashes, but not much. The pigs which received corn only, were so fat that their jowls nearly rubbed the ground and their bellies nearly touched the ground, although the Poland Chinas would not stand more than twelve or fourteen inches high; the corn brought about this deformity. I believe if we had fed those pigs upon wheat alone, or barley alone, that we would have had a good deal better results than with corn, but we would still have a pig which would be far from normal, either a Poland or a Berkshire. I think if a human being were kept on wheat flour alone, or on meat alone, or any one single article of diet, you would find that the person would suffer, in a short time, a craving for other food. These pigs had a craving for wood ashes, and they ate the wood off their troughs. I could give you no experience with mature hogs kept only upon corn. I can say that when we fattened hogs, keeping them upon corn and ashes, we found at the end of twelve weeks that it took 33 per cent more feed to make a pound of gain."

Two Hundred and Seventy-Nine Dollars from Thirty-Eight Ewes.

Some good strong arguments for keeping a few sheep on almost every farm have been put forth by the sheep expert of the University of Illinois, W. C. Coffey, and extensively published the past year. Here is a little statement that shows how the practical results come out in exact figures. Mr. Charles Maxcy of Sangamon county, had 38 ewes, high grade Shropshire, last spring. The business was

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and information about how to get these
farms free.

W. F. JONES, General Traffic Manager
710 Majestic Bldg., Denver, Colorado

new to him and he studied the sheep and the available bulletins upon their care as he went along, learning the way over one difficulty after another. Only 33 ewes produced lambs, 47 lambs, and only 40 of these lived to a marketable age.

These ewes sheared 380 pounds of wool which sold at 29½ cents per pound, netting him \$112.10 or \$2.95 per ewe.

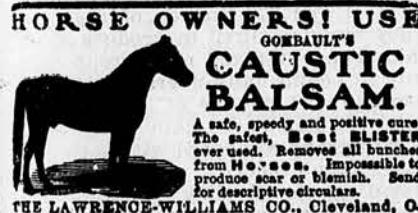
Mr. Maxcy determined to save 17 of the best young ewes, and thus enlarge his flock to 55 for next year. This left him 23 lambs to sell; they had been contracted for in advance at 6½ cents per pound at home, and weighed 1,480 pounds when taken June 30. This makes an average weight of 64½ pounds, a price of \$4.18 per head, and a total of \$9.20. The 17 lambs retained, at \$4.18 per head, would add \$71.06 to the account. The total income was thus \$279.36.

These sheep have done some excellent work in cleaning weeds out of the farm. Mr. Maxcy did not have an exact statement of the cost of keeping them but the reader can form a fair judgment as to whether there is good profit at these figures.

A Wise Appropriation.

Following the custom so successfully applied by a number of European governments in appropriating money to aid in the improved breeding of horses, notably of draft horses in France and Belgium and coach horses in Germany, the state of New Jersey has recently appropriated a liberal sum for the purchase of pure bred draft stallions to be properly distributed about the state, to enable farmers who have good draft mares to raise more valuable colts.

The demand for draft horses was



REAL ESTATE.

BUTLER COUNTY FARM.

Having purchased 320 acres cheap two years ago, wish to sell 80 or 160 acres. All smooth, tillable land, ½ pasture, finest of blue-stem, living water, good black soil. ½ mile to new town of Cassody, on the Orient railroad, 2 churches and 4 room school house. Only 15 miles to Kansas City. \$35 per acre.

L. E. DEAVER,
Cassody, Kansas.

A REAL BARGAIN.

320 acre stock farm, 120 acres under cultivation, balance in pasture, that cannot be beat in southeastern Kansas, being well watered by a creek that is supplied by springs. Good 6 room house, well at house, good barn for 16 head horses and shed for car cattle. Loft for 20 tons of loose hay, granary for 2,000 bu. grain, cribs for 3,000 bu. ear corn; lots all hog tight, also 100 a. with woven wire hog tight fence. Good steel wind mill in pasture at springs that never fail, furnishes water to large cistern at the barn. Good orchard and plenty of shade. This ideal stock farm is located 2½ miles from a thriving town of 500 people and 100 miles from Kansas City on the main line of the M. K. & T. Ry. This farm will be sold soon, for it is a bargain at \$25.00 per acre. For further information call or write. J. J. WILSON, Moran, Kan.

KANSAS CORN, WHEAT AND ALFALFA LAND.

Beautiful Smith Co., improved farms and 20,000 acres unimproved land in Comanche Co. now being surveyed and ready for settlement in a short time. Buy now at reasonable prices and terms. Double your money before long. Can use some good paper on approved securities as cash. Write me and do it now, for list, descriptions and prices.

CARL G. ANDERSON,
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still advancing in Grand Prairie. 160 a. plantation \$75 per acre; 720 a. 2 plantations, 200 a. in rice now, without crop, \$65 per acre; 250 a., 2 story house, big barn and store on place, 180 a. rice land, 100 a. timber, 80 a. or 160 a. now at \$30; 320 a. rice land, fenced, \$40; stock farms, \$25 to \$40, any size tract. F. W. HOUSTON, Stuttgart, Ark.

JACKSON COUNTY BARGAIN.

160 acres, 5 miles from R. R. town; four room house, new barn; 120 acres in cultivation, balance in pasture and mow land. Spring water. A bargain at \$50 per acre.

BLACK & BLACK, Holton, Kan.

never so great as it is today, especially for draft horses of good breeding, which factor gives improved size, bone, action and quality.

Such horses as farmers having good mares can raise with the aid of these superior stallions, will prove to be the most profitable things produced on the farm. The useful work which they can do will not only pay a large share of their cost, but is just the thing most needed to develop their desirable market qualities, such as wind, muscle, obedience and steady, free action in walking, leaving mostly for profit the handsome price obtained for that kind of horses at market.

The supply of such horses is not nearly equal to the demand at present, and buyers of the very best draft horses for use in the country are now in Europe trying to buy them there, where the supply is none too great for home demands.

The farmers throughout this country seem not to have realized the situation in the horse industry, and in many instances have been obliged to send to city markets to buy horses for their own farm work.

If the supply of draft horses is now materially below the demand, notwithstanding the reduced volume of manufacturing and other business since the panic of 1907, how will it be when the full tide of manufacturing, etc., is resumed, as bids fair to be the case before the present year is out?

While the rapid increase of automobiles has lessened the demand for driving horses, and the abolition by law of betting at horse races, the invention of motors has had no effect whatever upon the demand and values for draft horses, which are higher to-day than ever before.

No special skill is needed to train and fit a draft horse for market, as is required with driving and race horses, the successful raising and preparing of the latter kinds being really a profession in itself.

The more desirable and profitable types of draft horses are much more easily produced by the average farmer, especially where the public authorities aid him in procuring the service of a certified and registered draft stallion of outstanding merit for his mares, than would be trotting, pacing or running stock, in the value of which the fancy of the buyer and expert training become such determining factors.

Practical usefulness is the main determining factor in the market value of a draft horse. Aside from the initial service fee, it costs no more to raise a good draft horse than it does to raise a steer of the same age, while the former gives his work in return for his keep and when sold will bring as much money as two or three steers.

No better opportunity exists today for American farmers to make money than that offered in raising improved draft horses, and the state of New Jersey is to be congratulated on the progressive action of its legislators in providing for the most vital element in such improvement, which is an adequate supply of well-chosen registered draft stallions whose services may be had at very moderate fees.

Singer Free on Trial.

The Singer Sewing Machine Company is making one of the most remarkable offers ever made by an old established concern in any line of business. The Singer people are so confident of the ability of their machine to win friends by its own merits that they are willing to let any reputable person have one on trial in their own home, absolutely without expense or obligation to buy. The Singer company's motto is "A Singer in every home," and they believe that any one who has ever tried one of their machines will never be satisfied until they own one. The Singer does the best work of any machine on the market. It is the only machine that sews an elastic seam with a thread tension always just as firm as the cloth it holds together. The consequence is that when a strain is put upon it the seam stretches with the material and remains smooth and firm as ever. Interior machines sew with a constant tight thread tension, which makes rigid seams with no give nor elasticity. When a strain is put upon such a seam it will either pucker, break or cut clear through the cloth, often ruining much valuable material. In addition to the quality of the work it performs, the Singer is so carefully and perfectly constructed that breakdowns, with their consequent provoking delays and expensive repairs, are practically unknown. The average Singer will stand about thirty years of the hardest service, and frequently Singer machines will run for ten or fifteen years without a breakdown. If the Singer should get out of order, there is usually a Singer store just around the corner where there are extra parts and expert repair men. The Singer is so perfectly balanced and adjusted that it will do the heaviest work with the minimum of power. Nervous, delicate women say that it takes less energy to run a Singer all day than any other machine for a few hours. This is an advantage which hard-worked housewives and women who sew for a livelihood will appreciate. Try the Singer in your own home and let it speak for itself. The trial will cost you nothing and will place you

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It is to your interest to call on them and investigate the matter.

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LAND OPENING! IN THE FAMOUS PECOS VALLEY

Ten, twenty, forty and eighty acre tracts in District No. 8 of the famous Pecos Valley, Pecos County, Texas, can now be secured for immediate settlement or for investment. Every acre is irrigable and will come under the ditches of the Orient Project, a mammoth irrigation system now building. Toyah Lake and reservoir, the sources of water supply, cover nearly ten thousand acres, being the largest inland body of water in Texas. The water supply is guaranteed to be ample.

The Kansas City, Mexico & Orient Railroad, now in course of construction, adjoins District No. 8 on the south. The building of this great trans-continental railway from Kansas City to the west coast of Mexico insures rapid transportation to the market centers of the world. The soil is a rich chocolate loam, ranging from 8 to 25 feet in depth, and of rare quality, yielding enormous crops.

After extensive investigation Secretary of Agriculture F. D. Coburn of Kansas said the country I looked at especially was the Lower Pecos Valley, in Pecos, Reeves and Ward counties, Texas, and more particularly Pecos county, now about to be opened up to settlement. It will be made directly tributary to Kansas City by the Orient Railway. The best of the lands here, astonishingly fertile, are certainly favorably situated for irrigation. They are being disposed of at prices and on terms apparently attracting purchasers from all parts of the Union. *** Those who get there ahead of the railroads and the resulting rush will reap the benefits of the earlier low prices and the advantages that inevitably come later.

Competent authorities regard the climate and soil in the Pecos Valley of Texas as good. If not better, than in the Upper Pecos Valley, where improved irrigated lands sell for \$250 to \$2000 an acre. Colorado irrigated lands brought to a high state of cultivation sell for \$250 to \$2000 an acre, in Oregon \$250 to \$1000, in Idaho and California \$250 to \$2000.

Land including perpetual water rights can now be bought for \$40 an acre on very easy terms. This is probably your last opportunity to secure a farm home in the Rich Pecos Valley at so low a cost. Those who buy now before the railroad is completed and other improvements are made will doubtless see their land double and quadruple in value in a very short time. FULL INFORMATION, INCLUDING ILLUSTRATED BOOKLET, FREE.

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under no obligation to buy. Write the booklet, "A Wireless Message from the Singer Sewing Machine Company, Room No. 1174, Singer Building, New York, for the particulars of this offer. See ad on page 6."

DAIRY



The Kansas Agricultural College has undertaken this year the most comprehensive system of college extension work that has ever been attempted by any college in the United States. These plans include the employment of two men who will teach economical farm management and conduct demonstration work on private and county farms. A horticulturalist to visit and instruct about orchards and gardens; a lady to give demonstrations and hold classes in cooking and sewing; a good roads expert; a man to work for the boys' and girls' contests, clubs, etc., and a man for dairy work. C. H. Inman of Denver will take up the dairy work in the college extension department on September 1. His services will be available to any one who may want them in connection with the breeding and management of dairy cows, sanitary stabling, handling milk and cream, planning and directing the building of silos etc. He will also have no police powers or duties under the boar of health laws, but will be ready to help any one who wishes to handle cows in either a large or a small way. His services are free to the dairy farmer of the state during the month of September, after which he will be engaged in institute work until March, when he will again be at the call of parties needing his personal service.

How to Figure Profits of Milk Cows.
Credit the cow with her total product in milk, figured at the average price for the locality in which you live. If you have measured the milk by weight, reduce this to quarts by dividing by 2.15 and then multiply by the price per quart. Credit her with \$2 for the value of the calf and \$10 for the value of the manure. This will make the total credits except the profit you make in selling her the feed you have raised on the farm, as shown by the difference between its actual cost and the market price. Charge the cow with the cost of feed at market rates and the following fixed charges: Bedding for one year, \$2, service of bull \$1, labor \$27, interest on investment \$6, taxes \$0.60, insurance \$0.40, depreciation \$8. Total \$45. In figuring the interest on investment the cow is given a value of \$60 and her share of the value of the barn, tools and other equipment is placed at the same figure. Five per

cent on \$20 is \$6. In figuring the labor item it is estimated that one man, receiving a salary of \$45 per month, could do all of the work necessary in the care of twenty cows and the marketing of their product. This would make the labor item \$27 per cow. These figures are based on facts gathered by the Storrs Experiment Station of Connecticut and seem to form a satisfactory basis for computation elsewhere.

A \$200 an Acre Farm.

One of the best known, most successful farmers of Shawnee county is O. E. Walker, who lives about two miles west of Topeka on the West Sixth street road. Mr. Walker's farm is not large, comprising 120 acres. Like most Shawnee county farms it is rolling, but not rough. The north boundary line runs back close to the Kaw river. "West Sixth Street" is noted for its splendid farm improvements. No place on the road is more attractive than that of Mr. Walker. The large front lawn is as beautiful as a park. It is indeed a park. The fine large brick house, with its splendid porch and its modern improvements, is a favorite visiting place for many Topeka people. But Mr. Walker, let it be understood, is not a city farmer. He is a real farmer, whose business is farming.

Recently Mr. Walker took Mr. F. D. Coburn, Mr. Hugh Coulter, chief clerk in Mr. Coburn's office, and the writer out to see his farm in his big touring car.

The farm is devoted to pasture and to the growing of alfalfa hay, and is essentially a dairy farm. The pasture is of blue grass and clover chiefly and was in splendid condition. Alfalfa has for several years been the chief crop grown. There was some corn and it promises a large yield.

Alfalfa haying was on in full force. The second crop was nearly all cut and would have been cut a week earlier but for the heavy rains. A big third crop was already in sight on the field where the second cutting had been started.

Naturally Mr. Coburn, doubtless the leading authority on alfalfa, was greatly interested in the alfalfa fields, and he made no effort to restrain his enthusiasm over what he saw. He frequently remarked that he had never seen alfalfa of finer quality and had not often seen a larger yield. The alfalfa was absolutely clean.

The hay was being handled by the most up-to-date methods and was for the most part under large sheds in the field erected for the purpose.

One field has been in alfalfa continuously for nine years. It is difficult to see how it could have been better. Mr. Walker stated that he had regularly sown his alfalfa in the spring, and with satisfactory results as the fields showed. He did not claim that spring was the best sowing time, but it had suited his convenience better than fall sowing and he had so far had no reason to regret spring sowing. He asked Mr. Coburn his opinion. Mr. Coburn did not express an opinion on the relative merits of spring and fall sowing, but only replied that the present day tendency is strongly in the direction of fall sowing.

About 30 cows are being milked on the Walker farm at the present time. The cows were of excellent dairy type. Most of them are Holstein grades, with some pure breeds. The herd is headed by a splendid young registered Holstein bull.

When the farm was reached the cows were in the barn eating alfalfa. About the middle of the afternoon daily some alfalfa is given them. They go to it at call from the fine pasture and eat the alfalfa with great relish.

The barn is thoroughly modern. The floors are of concrete, well drained. Stanchions are provided for all the cows and also concrete troughs for running water. Back of the barn a large Indiana silo was in process of erection.

Mr. Walker is free from the labor of

feeding and milking the cows. He furnishes the cows and feed, but he sells the milk to a man who does all the feeding and the milking. Mr. Walker gets a good wholesale price, receiving a check every Monday morning. The milk is retailed in Topeka by the purchaser from the wagon at seven cents per quart in the summer and eight cents in the winter.

Milch cows are not the only live stock on the farm. There was a good herd of hogs and a nice bunch of mules, as well as a good flock of poultry.

As we were about to leave the farm Mr. Coburn jokingly proposed to buy the farm and asked Mr. Walker to name his price. Mr. Walker replied by saying that to a man who had recently approached him with a proposition to buy he had stated that the farm was paying a dividend of 10 per cent on a valuation of \$200 per acre.

What Mr. Walker and other Kansas farmers are doing in the dairy farming line is just an illustration of the fact that, if Iowa, Minnesota and Wisconsin have advantages over Kansas in this profitable branch of farming, these advantages are balanced by others which Kansas possesses.

In cattle other than milch cows Kansas holds third place, while in milch cows she is in twelfth place. This state should rank at least as high as sixth right now.

The Dairy and Hog Feeding.

Wherever it has been tried it is found that dairy by-products are most valuable for young hogs. The several state experiment stations, as well as practical dairymen, attest this fact. Recently the Ontario Agricultural College Station has conducted some tests along these lines also that are very interesting and we summarize them as follows:

Group 1, skim-milk and meal; group 2, buttermilk and meal; group 3, ordinary whey and meal; group 4, separated whey and meal, and group 5, used as a check, was fed water and meal.

The grain ration consisted of barley and frozen wheat, to which wheat middlings were added. Nearly two and one-half pounds of milk and buttermilk were fed with each pound of meal, and about two and three-quarters pounds of whey with each pound of meal. The

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feeding was continued for a period of 120 days.

Skim-milk gave the largest gain per pig, as well as the most economical gain. An average daily gain of 1.36 pounds per pig was made in the group receiving it, and 254 pounds of meal and 626 pounds of skim-milk produced 100 pounds of gain.

Buttermilk come so close to skim-milk in feeding value that, as far as the experiment goes, it may be regarded as practically equal to skim-milk. The group receiving it made an average daily gain per pig of 1.32 pounds, and made 100 pounds gain on 256 pounds of meal and 631 pounds of buttermilk. Ordinary whey fell considerably behind skim-milk and buttermilk as a hog feed that showed distinctly superior to separated whey. Separated whey is whey from which the fat has been removed for purposes of making whey butter. A daily average gain per pig of 1.16 pounds was made by the former to 1.07 pounds by the latter, while 269 pounds of meal and 747 pounds of whey were required per 100 pounds of gain, and 297 pounds of meal and 774 pounds of separated whey were required to produce a like gain. The water and meal group made only .7 pound daily average gain, and required 430 pounds of meal to produce 100 pounds of gain live weight.

Each group compared with the check group (that received water) and representing the feeding value of separated whey by 100, the feeding value of ordinary whey is approximately 125, buttermilk 160 and skim-milk 163.5. That is, ordinary whey showed a feeding value 25 per cent higher than the separated whey, buttermilk 60 per cent higher, and skim-milk 63.5 per cent higher.

Lightning Pitless Scales

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No. 1 is Daisy by Perf. E. L.; No. 2 by Mischief Maker out of a High Roller dam; No. 3 by Chief Sunshine 2d; No. 4 by Intruder. One Corrector 2d sow with a Meddler dam; one Cute Special sow, Ygonda by Keep On and a half sister to Ideal Keep On; one Gem's Ideal sow; one Prince Alert sow, extra good individual; one On and On sow, the largest On and On sow in Kansas; 5 fall boars.

W. R. Coleman will Consign-

Some valuable sows and gilts and one herd boar, Corrector Chief 2d by Corrector Chief. His dam was by Meddler and out of Oake Bell. Five open fall gilts, one sow, Perfect Kansan, by Kansas Sunshine by Ideal Sunshine; one show sow, Beauty by Mischief Maker. This is a show sow and a good producer.

Write for catalog at once and arrange to attend this sale. O. W. De-vine will represent Kansas Farmer. For catalog address

A. W. Shrivers,
Cleveland, Kan.,

W. R. Coleman,
Kingman, Kan.

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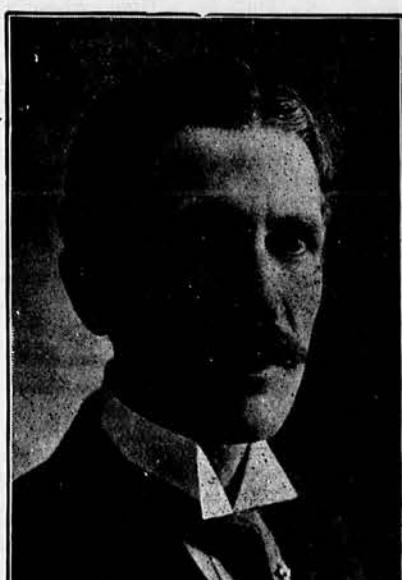
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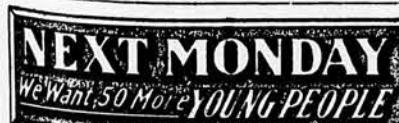


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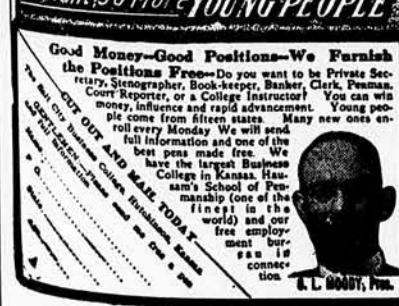
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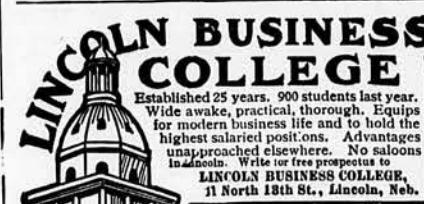
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The fellow who never gets gum and blue
When a strenuous job must be put through,
But pulls off his coat when the dark days come,
And grittily, doggedly makes things hum.
And now, as the hurrying crowd we scan,
Who'll step to the front and say, "I'm your man?"

—E. A. Brininstool in Pointers.

Attachment.
We sigh for things we scarce may hope to gain,
And which, if all our own, would give no peace;
We vainly toil and struggle to release
To knowledge nature's secrets; we complain
That 'tis not given us to break some chain,
To scale some peak, to fetch some golden fleece,
To do some mighty deed whose light shall cease
Only when moons no longer wax and wane.
'Tis thus we empty all the springs of life,
To lose the blessing at our very hand:
For Faith and Love, with glory as of sun,
Illume the path to Peace through every strife;
No work is futile that is nobly planned;
No deed is little if but greatly done.

—Edward Robeson Taylor.

Something Alled It.
A colored man complained to the storekeeper that ham which he had purchased there was not good.
"The ham is all right, Zeph," insisted the storekeeper.

"No, it ain't, Boss," insisted the negro. "Dat ham's shore bad!"

"How can that be," continued the storekeeper, "when it was cured only last week?"

The colored man scratched his head reflectively, and finally suggested:

"Well, sah, then it must have had a relapse."

Corn-Stealing Crows.
The following clever way of keeping crows away from a cornfield is used by the Dutch farmers and is practised to a certain extent in the eastern districts of this country. The farmer makes some small caps of stout paper, stands the points of them in the ground in various places in his field, then smears the mouth of each with some sticky material and drops in a few kernels of corn.

When the crow finds one of these paper caps, he thinks himself very fortunate until he attempts to peck at the tempting grain, when, to his astonishment, he finds the cap attached to his head, a regular fool's cap, which will not even allow him to see what course to take if he flies up.

However, he succeeds in reaching some coarse grass or bushes and after much bewildered scrambling and flopping about gets his head out of this undesirable cap, but ever afterward avoids the field where there are more of them.

APPLETON MANURE SPREADERS QUALITY



THE APPLETON Manure Spreader is as strong as steel and oak can make it. It is so simple that any boy who can drive a team can run it as well as any man and control its every operation from the seat. It is easy to load, easy for the horses to start, does not bunch the manure—but spreads it evenly and uniformly from the beginning to the end of the load, and as thickly or as thinly as needed—and is practically automatic in all its operations. Our **Free Spreader Booklet** tells you how and why. Send for it now.

Appleton Manufacturing Co.
(Established 1872)
19 Fargo Street, Batavia, Ill., U. S. A.

Motherhood.

Every mother of a family is the center of a widening circle of influence. To her is given the privilege of shaping the opinions of the future citizens of the country. Some mother has directed the thoughts and guided the formation of the character of every great and useful man. The mothers are the patriots and the makers of patriotism. Upon them the ultimate welfare of the country depends. For from the cradle to the college, the greatest influence upon a boy is his mother's influence, and whether he knows it or not, she knows it, and realizes that in her hands is a mighty power, a wonderful privilege, and a splendid responsibility.

The mother's duty is made up of little things, the curbing of a passion here, the directing of a tendency there, instilling ideals and privileges by daily example, and precept, and loving watchfulness. It is hers to be wise when she would be hasty, patient when she would be angry, courageous when she would be weak, and firm when she would be indulgent. She must control herself, efface her natural selfishness, sacrifice her native impulses, and all with the cheerfulness which conceals effort, with the joy which is its own reward.—R. C.

Long Life.

Good old Dr. Holmes, a retired college president, at the age of 91, appears as most men of 60 years; alert, perfectly well, he takes long journeys giving lectures and only last spring he conducted a two weeks' lecture course in a prominent Ohio college.

When questioned by a reporter as to the reason for his great mental and physical strength he replied: "I have always lived moderately. I have never used tobacco in any form, never used alcoholic or other intoxicating stimulants, always worked hard, ate plain food regularly and never allowed myself to sleep more than six hours out of 24, no more, no less. He was the eldest of twelve children, which may or may not have had to do with his habits of sleep.

Senator Cockrell, it is said, began his life in the national capital by training his common sense as an athlete trains his muscles. He decided never to take a drink at any public function. He cut out champagne. After thirty years of public life in Washington he seems to have stood against the demands of society, so allied, and sociability. He gives these rules for attaining a wealth of years: "Drink sparingly, eat regularly, get plenty of sleep and work hard."

Sarah Bernhardt, who is over 70, declares that sour milk is revivifying and rejuvenating and keeps her in trim, drifting down the shady side of life. The claim is that sour milk contains microbes that combat the cellular activities that hasten old age. "If you would live long," says madame, "work, massage and sour milk are indispensable." You can dispense with massage if you can exercise freely."

The late good Dr. Edward Everett Hale used to say, as I remember: "You cannot make yourself feel like getting up early in the morning but you can turn your feet out and get up." In following the word, many of his readers have come to know the meaning of his powers of endurance.

Two years ago, good medical authority reported a woman in Bulgaria or Servia who has a clear record of 135 ears, who lived principally on rye or black bread, sour milk, doughnuts, and if my memory serves me, a little bacon. She had possession of her faculties and was well and active.

"Pigs Is Pigs."

RUTH COWELL.

"My Dear Lady:—I have taken greatly to heart a remark you made in KANSAS FARMER. Of course you made it in ignorance, by that I mean in ignorance of the insult to the party you made it against. I do not remember the exact wording of the remark, but the general meaning was, 'There is one thing certain, no one can say the hog is pretty.' I beg to disagree

with you, and most emphatically to; there is a time when the pigs are pretty. Of course an old fat sow is not 'pretty,' neither is a fat woman 'pretty,' but their youth is past.

"The best way I know to get my revenge, is to ask you to come out with me some day, when I am feeding and see—

"Hogs to the right,
Hogs to the left,
Hogs in front,
And still they are coming,
Snorting and squealing;
Calling for feed, more feed,
But best of all, give me
Alfalfa, all that I can eat."

"Will you come?"

One could not but obey such a summons, so I packed my little grip, boarded the "Accommodation," and, at the end of the hot afternoon which I had concluded to be interminable, arrived. And then I decided it had been worth while, after all, for the cool half-hour's drive brought us to a big square house set among trees on a grassy hillside, two enchanting small boys met us shyly, and mine hostess made a welcome indisputable.

"You must remember," she said, when we parted that night, "that you are in the country, now, and country people get up early. I shall call you at five and we'll go fed the pigs."

That did sound early, but it was nearer six next morning when I heard the call, and the air was fresh and cool and sweet with the voices of birds so that it was a pleasure to awaken and get out into the out-of-doors. We climbed a little hill, and looked down across the valley, the fertile, highly cultivated valley, with its glistening corn-fields, its golden wheat and its velvety stretches of alfalfa, all threaded hither and yon with the zigzag lines of trees which marked the course of streams. It was a scene typically Kansas, and its broad and peaceful and prosperous expanse was what one gets homesick for when one is far away.

But one must not forget what one came for, and the long insistent call which kept repeating itself up and down the slopes of the clover field arrested my attention as it did the pigs'.

"Poo-ig, Poo-oo-ig, pooig-pooig-pooig!"

And the pigs came scurrying, seeking their feeding-place with squealing enthusiasm.

There were hundreds of them, little pigs and big pigs and middle-sized pigs, and they crowded and pushed and squirmed until each hungry snout had found a place for itself at the feeding-troughs. I stood there and meditated while mine hostess with earnest face and speechless with her eagerness to satisfy those insistent appetites, dipped bucketful after bucketful of soaked corn into the troughs. Pretty? Well, hardly! But comical, and by no means disgusting. I felt my respect for the pig rising.

Presently we went to another pen where were twenty-five pigs fattening for market. Their pen was clean, they drank clean water and ate good clean corn. As I watched them arranged in orderly rows along the trough, twenty-five round bodies, twenty-five tightly-curled tails, I was able, for the moment, to assume the stockman's point of view, and remark to myself that those were pretty pigs.

As we were returning to the house for breakfast, my friend discoursed to me of pigs.

"If a pig is treated right," she said, "he is a respectable member of society. A pig prefers cleanliness to dirt. He will walk two miles for clean water if he knows where it is, passing any number of mud-holes on the way."

She imports fresh blood every year, keeps them clean and lets them run on clover pasture. Thus she keeps her droves up to a high standard of excellence, for which they reward her by pouring gold into her pocket-book.

Those four hundred pigs were a sight well worth seeing, and I thanked my friend sincerely for showing me "the pig as he really is."

But pigs are not the only things worth seeing on this farm. For instance, there is the house, carefully planned, and equipped with all the modern conveniences. Water is pumped into it by the same windmill which waters the pigs and keeps the fish-pond full. The water-system cost six hundred dollars when it was put in some fourteen years ago. The only repairs have been a new windmill a year or so ago, and the renewal of some pipes in the house which were carelessly allowed to freeze up at one

WHAT STYLE DRILL IS PREFERRED?

We find a wide difference of opinion, even in the same neighborhood, as to what style furrow opener is most preferred on a grain drill. One man will say that he prefers a shoe or runner, another a single disk, and still another a double disk. Sometimes a farmer makes a mistake and realizes it after using his drill. The Kentucky Drill is an interchangeable grain drill. All that is necessary is to change the furrow openers—either style, single disk, double disk or shoe, interchanging on the same machine. It matters not what style drill you prefer, or in what section of the world you live, you can get a Kentucky Drill—"good as wheat in the mill"—that will do your work as it should be done. The feed is really the "heart" of a grain drill, and the Kentucky hasn't got heart disease. The furrow openers play an important part, because they make the seed trench; therefore whatever type is selected the Kentucky can always be relied upon to make the most perfect seed trench. It is fully and freely guaranteed—nothing misleading about it—just plain English—a warranty that means protection to the purchaser. Send for a copy of the Kentucky catalog and any special information you may want. Then go to your implement dealer and tell him you want to see the Kentucky Drill. Don't let the dealer put off a substitute on you, because it costs him less money. Remember there is a guarantee on the Kentucky that could not be made unless the drill will do all that is claimed for it.

THE AMERICAN SEEDING-MACHINE CO.
(INCORPORATED)
RICHMOND, INDIANA.

CORN
HARVESTER cuts and throws in piles on harvester or windrows. Man and horse cuts and shocks equal with a corn binder. Sold in every state. Price \$15. Testimonials and catalog free, showing harvester at work.

NEW PROCESS MFG. CO., SALINA, KAN.
Your harvester received and is O. K. all you claim for it. My daughters have been working the harvester and call it easy work. According to the old fashion way with the corn knife, would like the agency for the harvester.

Wm. Sommerfeld, Monroe, Wis.

OLD HOMESTEAD POLAND CHINAS.
Big strains, early, growthy pigs, \$15 each.
HERMAN MEYER, Washington, Kan.

SCOTCH COLLIES.
Pure golden sable, with white markings, from trained families of best breeding. Prices reasonable; satisfaction guaranteed.

CHAS. O. PARSONS, Clearwater, Kansas.

GRAND LOOK AND HUTCH BREEDING.
60 early farrowed Poland China pigs sired by Big Look, by Grand Look, weighing nearly 1,000, and out of a dam by Expansion, a half-ton boar. Their dams are mostly granddaughters of Expansion. Of course, they will be big. Will offer them at prices consistent with quality.

D. A. KRAMER, Washington, Kansas.

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The law exempts from taxation Kansas School, County and City bonds. We offer:

\$5,000 City of Topeka Water 5's
1,500 Osawatomie, Kansas 5's
38,000 Marion, Kansas Water 4½'s
8,000 Marion, Kansas Electric Light 4½'s
Write for prices and particulars.

We refer to any bank in Kansas City.

H. P. WRIGHT INVESTMENT CO., Established 1885. Kansas City, Mo.

REX HERD DUROC JERSEYS.
For Sale—One choice Ohio gilt, one Royal Improver gilt, 4 extra good spring boars; priced right.

HARRY S. ADAMS, R. D. 8, Wichita, Kan.

SNYDER BROS.' HIGH CLASS POLAND CHINAS.
Either sex, bred sows and bred gilts, priced right for quick sale. Write your wants.

SNYDER BROS., Winfield, Kansas.

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time when the family were away. The plan of the system is this: There is a never-failing spring of water in a place at some distance from the house. The windmill is placed over this, and from it water is pumped up into a reservoir of concrete which is built upon a high point of ground. Pipes lead from this to the house and the barns and other parts of the place. It is a system very simple in its contrivance and it never causes trouble by getting out of order.

One evening we drove to an eminence and looked out across the fields.

FASHIONS



800—An Attractive Model for the Little Girl.
The pretty little one-piece models are universally becoming to the small maiden. This one is charmingly simple and dainty. A patent leather belt encircles the waist and gives just the finishing touch needed. The dress may be worn either with or without a rumple and slips on easily over the head. Very little time and labor is required to fashion a little dress of this kind, which is suitable for the wash fabrics as for the light weight woolens. For child of seven years 2 yards of 36-inch material will be required. Child's one-piece frock, No. 200, sizes for 2, 5, 7 and 9 years.

6179—A Dainty Little Frock.
Little girl's one-piece dress. Cut in sizes 3 to 9 years. The five year size will require 2 yards of 36-inch material. Pink or blue chambray would make up most attractively after this design. It is a pretty little model, easy of construction. The front and back are gathered into a square yoke, and the sleeve is cut in one piece with the body of the garment.

844—Ladies' Waist.
Separate waists of all kinds as well as waists of entire costumes possess many features this season that give them newness and grace. Plum colored satin was used for this model, with Irish lace for trimming, and broidering and buttons for further ornamentation. The sleeve may be made in short length. The pattern is cut in five sizes, 32, 34, 36, 38 and 40 inches bust measure.

EACH PATTERN 10 CENTS.

The Kansas Farmer, Topeka, Kan.

Please find enclosed cents, for which send patterns as follows:

Size	Number
Name	
P. O.	R. D. State

The sky was full of drifting clouds, and the sun shone through them; now hear, now there, turning to gold some distant wheat field, or to burnished silver some dazzling corn-field. At our feet down a precipitous bank, lay a cool woods, through whose shady depths a winding creek crept. I looked across the shining, fertile fields, twelve hundred and eighty acres of which belonged to the pleasant home I had been visiting, and I reflected that the basis of all this beauty and prosperity is—pigs. After all, pigs have their place in the order of the universe, and far be it from me, hereafter, to throw stones at them, because, forsooth, they are fat and have snouts. "Pigs is pigs," and it can't be helped, poor things!

RECIPES.

Good Whole-Wheat Bread.

The use of whole-wheat bread has become so general during the past few years that it is no longer necessary to offer any arguments in support of the custom of eating it. Everybody knows that it is only in the "whole-wheat" bread that one may derive all the advantages of the wonderfully balanced elements of nutrition which the grain is supposed to impart. At the same time it must be admitted that whole-wheat bread is not infrequently unpalatable, if not utterly unwholesome, and as this fault is one that must be laid entirely at the door of the bread baker, the readers of The Delineator may be glad of an opportunity to procure a recipe that has been tested so often that it may absolutely be depended upon by those who are anxious to make good whole-wheat bread. Dissolve a cake of compressed yeast in a quart of warm water, and add enough of the flour to make a batter. Let this rise, and then add half a cupful of sugar, a piece of butter about the size of a hickory nut, a quarter of a teaspoonful of soda dissolved in a little water, half a teaspoonful of salt, and flour enough to make a stiff dough. Set this in a warm place until light, then mold it into loaves; let it rise again, and

8404—A Charming Negligee.

Every woman enjoys the comfort of a pretty house sacque, which has a very practical place in her wardrobe. The design here shown is picturesque, but simple to make. The model is cut with slashes in front and back, suggesting a butterfly shape. It will develop effectively in soft, light weight wool fabrics, or chambray, lawn, batiste or silk, with trimming with lace or ribbon. The pattern is cut in three sizes—small, medium, large.

5848—A Practical Work Apron.

All women who have little duties to perform about the house know the advantage of a large apron. Here is one that is intended for use during the morning hours, and will be found equally serviceable for the busy housekeeper, the artist and the home gardener. It covers the entire front of the waist. The skirt flares prettily and as it meets in the back, the whole skirt is protected. Generous sized pockets add greatly to its usefulness and will be appreciated by the wearer. Linen, gingham, Holland and percale are all used in the making. The medium size will require, 5½ yards of 36-inch material.

Ladies' work apron, No. 5848, sizes for small, medium and large.

8467—An Attractive Skirt Model.

This model is an excellent one for wash or woolen goods, silk or cloth. The lower part flares prettily in walking, plaits being arranged at each seam. The pattern is cut three sizes, 14, 16, 18 years, and requires 4½ yards of 44-inch material for the 16 size.

8326—Solid Comfort Amidst Household or Home Duties.

The attractive and becoming house dress here shown covers a long-reit want, since it embodies convenience and comfort, and is easily adjusted. The waist and skirt are joined to the belt and close at the side. The sleeve may be finished in elbow length or in full length and closed at the inner seam with buttons and buttonholes. The usual cotton goods, such as gingham, percale, Indian linen and chambray may be used for this model. The fullness of the waist is gathered into the belt, the yoke on the back may be omitted; the skirt has nine gores and may be finished with inverted plait or gathered fullness at the center back. The pattern is cut in seven sizes—32 to 44 inches bust measure. It requires 9½ yards of 24-inch material for the 36-inch size.

8451—A Smart Little Dress.

This pretty little frock shown in checked gingham, is cut somewhat on the Princess order, and is particularly becoming. A body lining is included in the pattern, but its use is optional. A pretty feature is the large collar that may be of contrasting material, as may also be the turned-back cuffs and belt. Silk, cotton and the woolen fabrics are all suitable to the design. For a girl of 8 years, 3½ yards of material 36 inches wide will be required. The pattern is cut

Shorthand Department

Back lessons will be furnished by the Shorthand editor upon request.

BY GEO. E. DOUGHERTY, TOPEKA,

To whom all correspondence relating to this department should be addressed. Enclose stamped, addressed envelope each time you write and you will receive prompt reply by mail. Add a stamp if you send in your long-hand translation of the shorthand exercises, and the editor will make corrections and helpful suggestions.

UPWARD STROKES

K um M an T R Th im Period D J Ch W down N S SH

DOWNWARD STROKES

Ex P P L I S in en o M B I X e v a a o g w o u

Each sign has a certain shape, and a certain size in proportion to the other signs—just as longhand letters have. Note that up strokes slant more than similar down strokes; they are naturally so written—in longhand.

In reading the Shorthand exercises, note that each dot and hook and each stroke and circle of a different shape or of a different size stands for a different sound—always the same sound; and that only actual sounds are represented—no "silent letters."

Thus the Shorthand word 'is' is made up of two different signs: the hook is one and the down stroke another: ~ | (s-e). ~ is just the same except that it has one additional sign: ~ (D), making "s-e-o-d". The first sign of ~ is the same as the last sign of ~ and is therefore D; the second is short "e"; and the third is o: / making the word "dog"; ~ is ~ O (d-o-t), exactly the same as "dog" except the last sign. ~ is | O D-a-n-t (bought). ~ is ~ p-an. ~ is ~ l-en-d. ~ is ~ u-o-d-s. ~ is ~ n-e-d (long a), "made", not "mad".

Most of these signs are also used, standing alone, for certain complete words.

Read the sound "ex" or "R" after a shaded sign. Thus, "B" shaded is "Ber," as in "Bert," "bird," "burn," "labor," "break."

Read "T" or "L" after a lengthened stroke, the "L" length being longer than the "T" length. Thus, "FT" is the same shape as "F," but longer; "FL" is also the same shape but still longer than "FT."

A dot under the end of a sign indicates "ing" or "thing."

Longhand methods of abbreviation are used also in shorthand.

LESSON XIV

Here are the first five sentences: A fly flew up from the glass. The wind blew very hard. This is a very cool day. Do you play marbles? The paper is on the table.

Now write out the others and send them in for correction and suggestion, in accordance with the arrangement mentioned in the department heading.

Many questions received by the editor of this department show that the inquirers have not fully understood everything in the lessons gone over. He is anxious to help you in every way, and suggests that by sending in transcripts regularly you would give him a better opportunity to do this, as the transcripts frequently show the need of further explanation at points which the student thinks he has all right.

bake it in a slow oven.

A New Way of Cooking Ham.

I want to tell my fellow-seekers-at-ter-good-things how to improve upon the ordinary methods of frying ham. Cut the pieces of meat in full, thick slices, straight across the ham, and place them in a frying-pan, covering well with boiling water. Set the pan directly over the fire for a few minutes, that it may boil rapidly, and then transfer it to the bottom of the oven, where it must be left to cook slowly for fully one hour. Replenish the pan with hot water as often as may be necessary, as the ham must not be permitted to actually "fry" until the hour has passed. When this time has elapsed, however, return the pan to the top of the stove that the meat may brown. If these directions are properly followed the ham will not only be deliciously flavored and attractively browned, but perfectly tender, and, in fact, well worth this trouble, for the stomach's sake.

Corn Oysters.

Three-fourths of a pint of grated corn, yolk of one egg, salt and pepper to taste. Just before frying add beaten white of egg and if the corn is very dry add a little cream or rich milk. Drop in hot fat from a tablespoon—about the size of a large oyster and fry brown.

Peach Cream.

A quart of fine peaches; pare and stone the fruit and cut in quarters. Beat the whites of three eggs with a half cup of powdered sugar very stiff. Take the yolks and mix with half a cupful of granulated sugar and a pint

of milk. Put the peaches into this mixture, place in a pudding dish and bake until almost firm. Mix in the whites and bake a light brown. Eat ice cold. This is very good.

A New Peach Pudding.

A peach and chocolate pudding is an English novelty that will appeal to those fond of the latter, and withal it is inexpensive, as canned or tinned peaches are used.

Take one pint tin of peaches, add an ounce of butter, and stew until soft; sweeten if liked and then beat them to a pulp. Boil four ounces of chocolate in a pint of milk until it is smooth. Beat four eggs and add to the chocolate, and after well mixing place the peaches in a deep pie dish, pour the chocolate over them, and bake from ten to twelve minutes in a moderate oven.

Frozen Fruit Custard.

Three pints of sweet milk, eight eggs, one teaspoonful of vanilla, one and one-half cupfuls of sugar, one cupful of raisins, one-half cupful of pecans chopped fine, one-third cupful of citron or candied orange peel.

Directions for Mixing.—Put three pints of sweet milk in a double boiler and slowly heat. Beat eight eggs together ten minutes, add one and one-half cupfuls of sugar to the eggs, then gradually stir eggs and sugar into hot milk, boil thoroughly, flavor with one spoonful of vanilla and set aside to cool. When cold put into a freezer, pack with crushed ice and salt; when almost frozen add the fruits and nuts and set aside to harden. This quantity will serve twelve people.

POTASH

POTASH PAYS

Sets the crop early and well and provides an abundance of nitrogen at the cheapest possible rate.

Add **Potash** to your wheat fertilizer to make it 2-8-6. Every two pounds of Muriate of Potash added to each 100 pounds of fertilizer increases the **Potash** total one per cent.

Send for New Farmers' Note Book—about soil, crops, manures and fertilizers—a practical book compiled by experts. Mailed on request, free.

GERMAN KALI WORKS, Messadock Bldg., Chicago
New York, 92 Nassau St. Atlanta, Ga., 1224 Candler Bldg.

**Kansas State Poultry Show.**

The twenty-first annual State Poultry Show will be held in the city of Wichita, Jan. 10 to 15, 1910. The Board of Managers of the Kansas State Poultry Association met at Wichita last week and after hearing the bids for the location of the show, from Topeka and Wichita, decided upon the latter city.

Topeka this year was very liberal in its offer to the state show, agreeing to give it the use of the Auditorium for a week with heat and light and to provide the feed for the fowls during the show, but Wichita was more liberal, and offered the use of their best hall, with heat and light, all the feed for the chickens, all the manual labor necessary to run the show, all the clerical help that the secretary needed, the printing of the premium list and the entertainment of the secretary for two weeks, before, during, and after the show. This extreme liberality on the part of Wichita surprised the members of the board and they very promptly accepted their offer. Parsons, Kan., in the southeastern part of the state had a notion to make a bid for the show, but concluded at the last moment that they did not have a hall large enough to accommodate the show and refrained from making any offer. These liberal offers by Wichita and Topeka to the state show denote a greater appreciation of poultry shows at the present time than previously. A few years ago Topeka would not let the poultry show have the use of the auditorium even though it paid the regular rates for it, but now it is willing to donate the use of the hall, equivalent to about a hundred dollars, and give besides, fifty dollars to pay for the chicken feed. Verily, the old hen is coming to her own.

Wichita will prove to be a most popular place for the show, being the metropolis of the Southwest and a city of wonderful growth and enterprise. It is the gateway of the new state of Oklahoma and the show will attract hundreds of fancy poultry buyers from that flourishing state, making it the best possible place for breeders to advertise their stock and sell their birds. The citizens of Wichita have been so liberal in providing for the wants and accommodations of the show that it is already an assured success, besides there are now over one thousand dollars in the treasury, thus assuring the payment of all premiums in full.

The entry fees have been reduced from those in force last year, to the old popular fees of previous years, viz., 25 cents per bird and one dollar per pen. The same liberal premiums as heretofore are offered, viz., \$10 for first pen, \$5 for second and \$2 for third. For single specimens \$2, \$1 and 50 cents are offered for best cock, hen, cockerel and pullet of all varieties of Standard poultry.

Pin Money from Hens.

In Arizona the products of the poultry industry cannot supply the demand. During the winter months in some localities the price of eggs often reaches 60 to 75 cents per dozen, and fresh eggs are scarce at that. This necessitates the importation of eggs from the East. Thus, two grades of eggs usually occur on the market, ranch and storage or Eastern eggs. The difference in price is generally from 5 to 15 cents per dozen. Moreover, many storage eggs are sold for fresh eggs. This aids in keeping down the price of fresh ranch eggs, thereby working an injury to the producer as well as frequently furnishing the consumer with an inferior article. Live and dressed poultry always command a good price and the market is never fully supplied.

Many people keep a few chickens to furnish the table with fresh meat and eggs. This is necessary in those cases where fresh eggs and table chickens are desired regularly, since they cannot be obtained on the mar-

DODD & STRUTHERS' Lightning Rods

Are Properly Made and Properly Put Up

THIS is true, because every man connected with the making or erecting of the rods, from Prof. Dodd to the very newest man, knows his business. Every spool of rod we make passes the careful scrutiny of the foreman and bears his inspection mark; every spool bears the shop record, showing the name of the man who made it, the date, and the machine upon which it was made.

This special care is required so that when you buy Lightning Rods you get protection from damage by lightning if you buy the Dodd & Struthers rod.

The idea that just anything will do so it is called a Lightning Rod is wrong. The best is none too good, and when you trust your life to a Lightning Rod when a storm is raging, you will be safer and feel better if you know the rods you have are admitted by all good authorities to be the standard. Dodd & Struthers' rods were the ones to receive the highest award at the World's Fair at St. Louis, and also Jamestown, N. J.

If you buy the Dodd & Struthers rod you can get your insurance at a considerable reduction.

Don't risk the season without Lightning Rods.

Don't buy an imitation.

Buy Dodd & Struthers' rods and be safe.

DODD & STRUTHERS, DES MOINES, IOWA

15 Cents a Rod

For a 22-inch Hog Fence; 16¢ for 26-inch; 19¢ for 31-inch; 22 1/2¢ for 34-inch; 27¢ for a 47-inch Farm Fence; 50-inch Poultry Fence \$1. Lowest prices ever made. Sold on 30 days trial. Catalog free. Write for it today.

KITSELMAN BROS.,
Box 6, MUNCIE, IND.

\$10.00 Sweep Feed | \$14.00 Galvanized Grinder.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
Seventh St., Topeka, Kansas

BREEDING STOCK FOR SALE

In order to make room for growing stock I will sell a few dozen W. P. Rock hens at \$10 per dozen or less quantities at \$1 each. Such breeders would be worth from \$2 to \$5 each at breeding season. Some late chicks might yet be gotten out of them.

THOMAS OWEN, Station B, Topeka, Kansas.

RHODE ISLAND REDS.**ROSE AND SINGLE COMB RHODE ISLAND REDS.**

Eggs from any mating half price remainder of season. Mixed eggs Rose or Single Comb from several matings \$1 per setting. Red pullets hatched in midsummer will make winter layers. Write for descriptive mating list. It is free.

H. A. SIBLEY,
Lawrence, Kansas.

BUFF ORPINGTONS.**BEST BUFF COCHINS IN KANSAS.**

This variety exclusively. Can furnish eggs from prize winning stock at \$1.50 and \$2 per setting. J. C. BAUGHMAN, Topeka, Kan.

FOR SALE.
S. C. Buff Orpington hens, pullets and cockerels.
S. C. White Orpington hens, cockerels and pullets.
S. C. Black Orpington pullets and cockerels.

White Plymouth Rock pullets.
Rose Comb R. I. Red cockerels and pullets and a few
Diamond Jubilee Orpington hens and pullets. \$1.00 to \$2.50 each.

MRS. LIZZIE B. GRIFFITH,
Route 3, Emporia, Kan.

LIGHT BRAHMAS.**LIGHT BRAHMA EGGS.**

from birds scoring 93 to 94 by Judge Rhodes, \$1.50 per 15, large flock \$1 per \$15, \$4 per 100. Baby chicks each month \$2 per dozen. MRS. A. P. WOOLVERTON, R. 8, Topeka, Kan.

PLYMOUTH ROCKS.**BREEDERS.**

Our White Rock breeders are for sale at right prices. SMITH & KNOFF, Mayetta, Kan.

PURE BRED POULTRY.**SUNNY CREST.**

Stock, fruit and poultry farm. Eggs to sell from M. B. turkeys, R. I. Reds and Leghorns. Registered Jersey calves and Poland China hogs for sale. Write me. MRS. WM. BRITE, Pierce City, Mo.

BUFF ORPINGTONS.

BUFF ORPINGTONS—Chicks, pens, baby chicks, eggs. More first prizes State Fairs and State Shows than all other breeders. My POULTRY BOOK, containing information worth hundreds of dollars to farmers sent for 10 cents. W. H. MAXWELL, R. 9, Topeka, Kan.

FIELD NOTES

FIELD MEN.

W. Devine.....Topeka, Kan.
R. Johnson.....Clay Center, Kan.
W. Johnson.....Beloit, Kan.

PURE BRED STOCK SALES.

Percherons.

Aug. 9—J. C. Robison, Towanda, Kan.
Aug. 11—Percheron Breeders' Sale at Manhattan, Kan. Will H. Rhodes, Manager.

Draft Horses.

Aug. 26, 27, 28—Percherons, Belgians, French Draft, Shires, Clydes, Trotters, at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Aug. 1, 2, 3, 4—Percherons, Belgians, French Draft, Shires, Clydes, Trotters, at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Jersey Cattle.

Aug. 30—Mrs. Wm. Brite, Pierce City, Mo.

Herefords.

Aug. 29—Miss Lou Goodwin's dispersion at Blue Rapids. Chas. R. Thomas, manager, Williamson Bldg., Kansas City, Mo.

Aug. 6—Sam'l Drybread, Elk City, Kan.

Aug. 12—Breeders' Sale Company, sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Aug. 16—Shawnee Breeders' Association, L. Vrooman, manager, Topeka, Kan.

Shorthorns.

Aug. 9—Breeders' Sale Company, sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Polled Durhams.

Aug. 10—Breeders' Sale Company, sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Aberdeen-Angus.

Aug. 27—Sutton Farms, Chas. E. Sutton, owner, Lawrence, Kan.

Aug. 11—Breeders' Sale Company sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Poland Chinas.

Aug. 26—W. R. Coleman, Kingman, Kan.

Aug. 26—W. R. Coleman, Kingman, Kan., and A. W. Shriner, Cleveland, Kan.

Aug. 26—A. W. Shriner, Cleveland, Kan.

Aug. 8—F. G. Nies & Son, Goddard, Kan.

Aug. 23—J. R. Sparks, Hunter, Okla.

Aug. 5—J. D. Spangler, Sharon, Kan.

Aug. 13—H. W. Griffiths, Clay Center, Kan.

Aug. 26—C. S. Nevius, Chiles, Kan.

Aug. 20—Roy Johnston, South Mound, Kan.

Aug. 31—Herman Gronninger & Sons, Ben-dena, Kan.

Aug. 27—Geo. W. Smith, Pawnee City, Neb.

Aug. 27—G. M. Hill, Garnett, Kan.

Aug. 29—J. H. Harter, Westmoreland, Kan.

Aug. 2—Breeders' Sale Company, sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Aug. 3—J. W. Pelphey & Sons, Humboldt, Kan.

Aug. 3—H. S. Chapman & Sons, Pawnee City, Neb.

Aug. 4—E. E. Axline, Oak Grove, Mo.

Aug. 10—H. B. Walter, Effingham, Ill.

Aug. 19—H. O. Sheldon, Wichita, Kan.

Aug. 2—F. G. Nies & Son, Goddard, Kan.

Aug. 12—D. A. Wolfsperger, Lindsey, Kan.

Aug. 15—C. H. Pilcher, Glascow, Kan., at Concordia, Kan.

Aug. 16—J. H. Harter, Westmoreland, Kan.

Aug. 25—Chas. O. Parsons, Clearwater, Kan.

Duroes.

Aug. 3—H. J. Coppins, Potwin, Kan.

Aug. 25 and Nov. 20—S. W. Alfred & Son, Sharon, Kan.

Aug. 27—Pearl H. Pagett, Beloit, Kan.

Aug. 11—Breeders' Sale Company, sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Aug. 5—Miner & Cross, Guide Rock, Neb.

Aug. 9—A. C. Carter, Cabool, Mo.

Aug. 9—A. L. Atkin and W. W. Weast, Parsons, Kan.

Aug. 10—Sam'l Drybread, Elk City, Kan.

Aug. 12—S. W. Alfred & Son, Sharon, Kan.

Aug. 21—J. E. Jones, Clyde, Kan.

Aug. 1—Pearl H. Pagett, Beloit, Kan., and R. G. Sollenberger, Woodston, Kan. Combination sale at Concordia, Kan.

Aug. 2—E. M. Myers, Burr Oak, Kan.

Aug. 2—R. E. Rinehart & Slagle, Smith Center, Kan.

Aug. 4—W. C. Whitney, Agra, Kan.

Aug. 7—Frank Elder, Green, Kan. Sale at Clay Center, Kan.

Aug. 8—Samuelson Bros., Manhattan, Kan.

Aug. 9—Samuelson Bros., Cleburne, Kan.

Aug. 9—Miner & Cross, Guide Rock, Neb.

Aug. 10—Samuelson Bros., Blain, Kan.

Aug. 17—Thompson Bros., Garrison, Kan.

Aug. 21—T. E. Goethe, Leonardville, Kan.

Aug. 21—W. T. Fitch, Minneapolis, Kan.

Aug. 22—Pearl H. Pagett, Beloit, Kan.

Aug. 22—E. G. McDowell, Corning, Kan.

Aug. 23—R. G. Sollenberger, Woodston, Kan.

Berkshires.

Aug. 21—Sutton Farms, Chas. E. Sutton, owner, Lawrence, Kan.

Aug. 12—Kinloch Farm, Kirksville, Mo.

Aug. 23—Breeders' Sale Company, sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Aug. 14—F. T. Hadacheck, Wayne, Kan.

Aug. 15—F. T. Hadacheck, Wayne, Kan.

Hampshire Swine.

Aug. 2—Breeders' Sale Company, sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Chester Whites.

Aug. 2—Breeders' Sale Company, sale at Bloomington, Ill. C. W. Hurt, manager, Arrowsmith, Ill.

Combination Sales.

Sept. 2 to Oct. 1—Woodson County Breed-

ers' Association will sell: Aberdeen-Angus cattle.

Sept. 29: Shorthorn cattle.

Sept. 29: Duroes, Berkshires and Poland Chinas.

Det. 1. Write G. A. Laude, Secretary, at Rose, Kan.

Dec. 11-18—Enid Fine Stock Show and Sale.

F. S. Kirk, Manager, Enid, Okla.

Feb. 16, 17, 18—Mitchell County Breeders' Association, Beloit, Kan.

N. E. Stucker, of Ottawa, Kan., a new

breeder of Shetland ponies with an old

stud founded by Chas. F. Johnson of Oska-

ka, Kan., has this week shipped a pair of

ponies to Plymouth, N. H.

"I have bred Shorthorns a long time, but am now in the sheep business," said J. A. Baxter, of Tecumseh, Kan. "Last fall at the State-Wide Fair I bought six pure bred Shropshire ewes and without considering their value as soil enrichers or weed eradicators, I am sure of at least 75 per cent on my investment. They are no more trouble than the farm chickens and are the best of money makers."

The National Dairy Show Association will hold its fourth annual dairy exhibition at Milwaukee, in the new Auditorium, Oct. 14-24. It is desired to make this dairy show a strong representative of all dairy interests, to bring together dairymen, butter and cheese makers, farmers and manufacturers of dairy products, from all parts of the country for educational purposes; also to be present at this gathering the best and most up-to-date makers of dairy machinery and to show choice herds of cattle representing all the different dairy breeds.

The American consul at Chemnitz, Germany, reports the use of a new antiseptic paint, which the German people are using successfully in their warfare against tuberculosis. This paint has a basis of white lead or zinc white and is of value chiefly for use in rooms where it is desired to combat pathogenic germs. Experiments show that when in contact with a vitrallin coating the bacilli of tuberculosis as found in saliva is completely destroyed in three days, while those of diphtheria only require five hours and those of typhoid eight hours. This paint is found to be efficient for disinfecting purposes for a long time, though it should be renewed at least once a year. The active principle is vitrallin, which makes a highly lustrous paint, suitable for any surface.

E. D. King, owner of the Meadow Brook herds of Berkshire swine and Rambouillet sheep, has been appointed an expert judge on Delaine, Merino and Rambouillet classes of sheep at the Alaska-Yukon-Pacific Exposition. He will also act as expert judge of sheep and swine at the Oregon State Fair. Mr. King plans to leave his home at Burlington, Kan., about the middle of August and will remain on the coast at least until his duties as judge are completed and perhaps much longer, as he feels that he is entitled to a good long rest. It is a matter of satisfaction to Kansas Farmer to know that a Kansas man of such conspicuous ability as both breeder and judge has been selected to act as judge in these important events. Mr. King will give satisfaction to the exhibitors and bring credit to his state.

The Oklahoma State Fair.
When the machinery setting in motion Oklahoma's third annual state fair and exposition is turned on in full blast at Oklahoma City on the morning of Sept. 29, 1909, the people of the forty-sixth state of the Union will be given an opportunity to witness an exposition that will be in a class to itself and one that promises to eclipse many of those established in the older states as far back as twenty-five years ago. The fair will start on time and will run, rain or shine, from Sept. 28 to Oct. 8. Since the closing of the fair last year the management has spared no expense or pains in the erection of new buildings and improving the grounds. The improvements for 1909 consist of the construction of an agricultural hall 84x178 feet of the most modern type and the building of new sidewalks about the grounds.

The Colleges at the Interstate Fair.
In the present age of advanced and advancing agriculture, the college that has developed a profession out of a former mere occupation affords one of the best evidences of the progress of the times. The agricultural colleges are wide awake. They are not letting any chances to develop the best of talent go by default. Anything that can be done to stimulate interest in the young men is done, and to this end judging classes in the live stock are annually taken out to the fairs and live stock shows where competitive judging develops the keenest of observation and effort in the student. Heretofore Missouri, Iowa and Kansas agricultural colleges have had their classes at the Interstate Live Stock Show at South St. Joseph, Mo. This year the Nebraska college is to be added and will bring a big class for work on the show grounds.

The Big De Clow Draft Horse Sale.
Aug. 18 will see one of the biggest sales of imported draft bred horses ever made in the west and perhaps one of the largest offerings of imported mares in the country. This sale will be made by W. L. De Clow, Cedar Rapids, Iowa, who has made no less than three importations of Percherons and Belgians for this purpose, the last one of which arrived on Aug. 4 in fine condition. There will be ten extra fine Belgian mares in the sale. All mares of all the breeds offered will be in foal and Mr. De Clow believes he is making as fine an offering of mares as was ever made in America. In breeding horses of high quality the use of purebred males is of immense importance, but if time is to be saved and results obtained quickly the use of pure bred males is of equal importance. Be sure to be on hand at this sale.

The Kinlich Farm Visited.

Last week a Kansas Farmer field man

went to

the

Visited the famous Kinloch farm, located at Kirksville, Mo. This farm includes about one section of land, which lies in the suburbs of the city and is in a high state of cultivation with the best of improvements. This is the home of the famous Kinloch Berkshire hogs and Jersey cattle. At this time the Berkshires number about 300 head and the Jerseys about 200 head, all of which are highly bred and kept in the pink of condition. This famous breeding farm was established by the elder Dr. Still, who was a member of the first Kansas legislature and who, during his long and useful life, was able to watch the growth and development of the Sunflower State. Oct. 12 is announced as the date for the Kinloch annual fair sale and Kansas Farmer readers will be given full information in proper time as this sale will be advertised in its columns.

Hadachek's Herd of Berkshires.
The cut that is herewith presented is from a photo of F. T. Hadachek, breeder of registered Berkshire swine. The fine herd of which Mr. Hadachek is owner is located at Wayne, Republic County, Kan. The farm is about three miles from Wayne and about



F. T. Hadachek, Wayne, Kansas, Breeder of Berkshire Swine.

eight miles from Belleville. The herd at this time numbers about 75 head, headed by the two exceptionally good boars, Black Premier and Star Masterpiece 3d 119769. Black Premier is by Lord Longfellow 95001. Mr. Hadachek founded this splendid herd five years ago, buying his first stock from E. L. John, of Broadway, Mo. Since that time he has bought liberally from the herds of Chas. Sutton, Lawrence, Kan.; Kinloch Farm, Kirksville, Mo.; F. A. Schoeninger, Nelson, Neb.; F. D. Craine, Sterling, Ill.; T. J. Condon, Pawnee City, Neb., and other well known breeders. Among the best things in the female division of the herd are Black Princess Elizabeth 119778, sired by Sir Longfellow, Lady Trueworth 2d 119772, Lady Perfection, a very showy sow, bred by Chas. Sutton, Robinhood Duchess, a double granddaughter of old Berryton Duke 72946. Two good ones by Sterling Prince 2d, Charmer Lady, a fine one bred by N. H. Gentry, Pawnee Girl, tracing direct to Baron Lee 6th and Longfellow. Mr. Hadachek has a fine lot of fall and spring pigs of both sexes and will hold two sales this year. A boar sale Nov. 16 and a bred sow sale Feb. 15. It is needless to say that here is one of the really good herds of Kansas and every lover of

ALFALFA HONEY, 1909 CROP.
Two cans, 120 pounds, \$8.50, single can \$4.50, F. O. B. cars. W. P. MORLEY, Las Vegas, Colo.

NEBRASKA GROWN SEED WHEAT.
Fine in quality, very large yielder, guaranteed to equal samples. Write for prices. G. D. RATEKIN, Hastings, Neb.

PURE HONEY.
Extracted in cans of 60 lbs. net, amber \$7.80, white \$9. Comb honey in one lb. sections. Send for price list. Nothing but genuine bee's honey. Reference Kansas Farmer. The Arkansas Valley Apiarists, CHEEK & WALLINGER, Las Animas, Colorado.

BIG BARGAIN FOR THRASHERMEN.
32 H. P. cross-compound Reeves Engine, 36-60 Reeves Separator, and four 6-gang LaCrosse High Private disk plows, for sale on first reasonable offer. Separator entirely new; other machinery guaranteed in fine condition. This stuff must go quickly. C. C. WILLIAMS, Box 155, Englewood, Colo.

SIX BRED GILTS FOR SALE.
Sired by the Peter Mouw bred boar, Chief, and out of Big Tecumseh bred sows. Will breed them to my Expansive boar, Kansas Ex., and ship them when safe at \$25 each. Also spring pigs both sexes. A. C. LOBAUGH, Washington, Kansas.

When You Buy Catalpa

The price is not of such importance to you as it is to get Genuine Pure Speciosa, the big, hardy kind. Our seed is inspected by U. S. Dept. of Agriculture Forest Service. Write for proof and prices. Also have fine line of trees of quality.

WINFIELD NURSERY CO., Winfield, Kan.

HOG DIP MITE KILLER

Crude Oil preparation which is absolutely pure, no dip tank or spray pump necessary, just follow our simple instructions. One application each spring and fall will keep chicken house free from mites. Price \$5.00 per barrel of 50 gallons, freight prepaid to any railroad station in Kansas. CHANUTE REFINING CO., Chanute, Kan.

this great breed should remember these sale dates.

The Ideal Herd.
We called on Chas. O. Parsons, the well known breeder of Poland China hogs, Barred Rock chickens and Scotch collie dogs at Clearwater, Kan. We found a good bunch of pigs in Mr. Parsons' herd. The herd boar used in this herd is Ideal Keep On, every breeder knows Ideal Keep On. He has proved himself a sire of very fancy and uniform Polands. Ideal Keep On is assisted by Perfect Challenger, a herd boar with no little reputation. The sows in Mr. Parsons' herd are far above the average herds. They are very smooth, high quality lot, with plenty of size and they are producing some extra good pigs mated to the above mentioned boars that will be mentioned in Kansas Farmer later on. Mr. Parsons is advertising this week in Kansas Farmer a bunch of collie pups that are from well trained families. They are nicely marked and priced reasonably. Write Mr. Parsons for prices and description. Kindly mention Kansas Farmer when writing.

Snyder Bros.' Poland China Sale.
Snyder Bros.' Poland China sale at Winfield, Kan., last week served as another demonstration of the fact that the farmers appreciate good Poland Chinas. Because of the very busy season and the hot weather the crowd in attendance was not as large as it might have been but the bidding showed the appreciation of the offering. These pigs have been fed very lightly on grain and were taken up from pasture on sale day. Many of the sows were just weaning litters and some were in very moderate flesh, but they were a well bred lot, such as will do the purchasers good. Chas. E. Curry secured some of the good sows of the offering, one of which was a daughter of On the Plumb. F. G. Niles & Sons, Goddard, Kan., also got some good sows. C. F. Elliot, Willmot, got a good sister of the Royal Champion Peerless Perfection 2d and a nice boar by On the Plumb. Geo. Ott, Winfield, Kan., took six sows and a boar as a foundation of a new herd. A. Prosser and R. T. Vaughan, Latham, Kan., were also good purchasers. The balance was sold to neighboring farmers at prices ranging from \$10 to \$23 for barrows and an average of \$26.57 for bred sows. The entire offering averaged \$100.

College Boars for Sale.
The advertisement of the Kansas Agricultural College announcing some herd boars for sale in this issue of Kansas Farmer should interest parties that are in the market for the best quality of boars at moderate cost. These boars are all young and have all been used in the college herds with excellent results. Among those that have outstanding merit is a pair of Poland China yearlings sired by the prize winning boar Impudence I Know. They are out of Nonpareil dams and both have plenty of size, together with extra good finish. The yearling Berkshire boar, Standard Duke, is a splendid specimen of the breed. He is out of Hood Farm Duchess 18th, who was the daughter of Hood Farm Duchess 17th, said to be the best Berkshire sow now owned in America. The sire of Standard Duke was Silver Tip Revelation. Another Berkshire boar, and a good one, is by Premier Bell's Duke, who was champion at the Iowa State Fair last fall. His dam was Richmond Queen 2d. The great young Duroc boar, Wonder Chief, is also offered for sale. He is one of the best sons of Ohio Chief and is a litter brother to Chief Tatarax, winner of the first in class at the Kansas and Oklahoma State Fairs of 1908. Besides these herd boars the college has about 50 good spring boars of the different breeds that are mostly of early farrow and are the top from a large number raised. All these boars are in good breeding condition and will be priced within the reach of both breeders and farmers. For full information and prices mention Kansas Farmer and write to Prof. R. J. Kinney, State Agricultural College, Manhattan, Kan.

Sharon Valley Herd of Durocs.
With this issue we wish to announce the change of sale date of S. W. Alford & Son, owners of the Sharon Valley herd of Crimson Duroc Jerseys at Sharon, Kan. Sharon Valley herd is one of the best herds in the southwestern part of the state. Messrs. Alford & Son always produce the big boned, long bodied kind of Duroc Jerseys. At the head of their herd is B. F. Ohio Chief, by Ohio Chief and a litter mate to Alfred's Ohio Chief. It will be remembered by most all the breeders that Alfred's Ohio Chief boar was first and grand champion at the Kansas State Fair at Hutchinson, Kan., in 1907, with strong competition. B. F. Ohio Chief was first in class and first at head of aged herd at Hutchinson State Fair in 1908. B. F. Ohio Chief is considered one of the good breeding boars in Kansas, and has proven a sire of extra high class boars and gilts. If you need any good herd material write Messrs. Alford & Son for prices on B. F. Ohio Chief pigs. One of the main herd boars in this herd that very little has been said about in the stock papers, is Top Commodore by Old Commodore, a Duroc boar that showed at Ohio, Kentucky and Tennessee State Fairs and never was beaten. Top Commodore is the sire of some of the best pigs in the Sharon Valley herd. Messrs. Alford & Son have a nice lot of fall gilts and spring pigs which they are offering at reasonable prices. The sows in the herd are the large, roomy kind and very prolific breeders. They are all matured and tried brood sows and are from the very best blood lines known to the breed and they are all producers. Messrs. Alford & Son will hold a sale on Nov. 20 and sell a bunch of good Durocs as ever passed through a sale ring. Watch Kansas Farmer for further mention of this sale. Send in your name early for a catalog.

The Sutton Farm Berkshire Sale.
What promises to be one of the big events in the Berkshire world will be the sale of a choice draft of fifty head of the Sutton Berkshires. The quality of these Berk-



shires alone would attract buyers if no special features were introduced, but Mr. Sutton announces that he will offer ten head of tops from the N. H. Gentry herd of Sedalia, Mo., that are bred to the famous Berryton Duke Jr. or to Beau Brummel or Lord Baron 2d. This makes this sale

INSURE YOUR WINTER WHEAT CROP

Protect Your Crop From Frost;
Use a Great Deal Less Seed;
Get a Big Increase in Quantity and
Quality of Crops.

All this you can do by using Van Brunt Single Disc Drill. Every seed goes in the ground, deep enough away from frost—at an uniform depth so the grain grows to an equal height, with stronger stalks, ripening together and increasing quality of the crop. the results are a marvelous yield and uniformity.

No ground is wasted. Not an inch of ground stands idle because seed was not properly sown, as happens with broadcast seeders. All your ground works, greatly increasing the yield per acre, with use of 25 per cent less seed. Saves money on one end and makes money for you on the other—and makes your crop sure.

VAN BRUNT SINGLE DISC DRILLS

make perfect seed beds in any workable soil. No clogging in cornstalks, mud or trash. The adjustable fence feel prevents bunching and insures perfect uniform distribution—no clogs to wear out, or parts to work loose.

They Make Their Way by the Way They Are Made

Free Booklet—Doesn't this protection against frost killing—this saving of seed, and increase of yield and quality of crops make it worth your while to find out all about the Van Brunt—to get full information and the proofs of money-saving and money-making advantages to you. Write then, today, for this free book.

VAN BRUNT MFG. CO.,
124 Van Brunt St.,

**HORICON,
WIS.**



P & O SUCCESS PLOWS

A plow that has been on the market for years without a change in its construction; a plow that was so well built at the start that no changes have been necessary; a plow that has the largest sale of any riding plow made; a plow that is so simple it cannot get out of order, so strong that it lasts a lifetime—

Such is The Success.

It has the strongest and simplest frame ever put on a riding plow; the best hitch, the best landing device, the best rolling cutter, and best bottoms ever made. It has but two levers, but they give the same wide range of adjustments as plows with three or four levers.

The Success is heavier, it has more material, but fewer parts, and therefore less complicated, than others. That is why it is simple, strong and durable. That is why we call it **The Success**.

The Success is medium-priced plow that will work anywhere, and it is backed by an unqualified guarantee. Why buy a high priced plow when you can accomplish the same results with the Success, a medium-priced plow?

When so ordered, we furnish Alfalfa Shares, which are broader than the ordinary shares.

Insist on getting P. & O. Canton Plows, Harrows, Planters, Cultivators, Potato Diggers, Stalk Cutters, etc., from your dealer. Send for Catalog C 43. A Beautifully Illustrated Pamphlet will also be mailed. Write for it today.

Parlin & Orendorf Co., Canton, Ill.

especially attractive. Berryton Duke Jr. is fully up to the expectations of his owner and other good judges. He reproduces his quality and finish, as will be seen by visitors at the farm during the sale. In his individual excellence, pleasing style, lofty carriage and rugged constitution he is impressive and a worthy descendant of his famous sire and of the great Black Robin Hood family. The Sutton herd of Berkshire swine is now one of the greatest of the breed in the west and stands for quality. In this offering will be found some show boars and gilts. The early period of the sale will enable the purchaser to show in the fairs of this and other states if he so desires. Other lines of breeding will be offered to satisfy all purchasers. There are but few places where Berryton Duke Jr. or Field Marshall stuff can be had in numbers and Sutton farm is probably the best of these.

Jenkins & Clark Poland China Sale.
The Poland China sale of J. A. Jenkins and L. W. Clark was held as advertised. The offering was in the pink of condition and deserved better prices, but owing to the extreme hot weather and the busy season, the crowd was small. The bidding was all done by home men. The top of the sale was \$47 for the great brood sow, Daybreak by Impudence. Only one or two gilts sold under \$20. Following is a list of representative sales:

Jenkins' Consignment—Females:
Lot 1—Daybreak by Impudence, Sam Clark, Conway Springs, Kan. \$38.00
Lot 2—Theo 3d by Chief Sunshine 2d, Henry Schobe, Conway Springs, Kan. 37.00

Clark's Consignment—Females:

Lot 34—Keno Lady by Keno Imp, Sam Clark, Conway Springs, Kan. 27.00

Lot 36—Bernice by Perfect Challenger, J. C. Cundiff 30.00

Lot 37—Kitty by Evergreen Meddier, Thad Wamsley 22.00

Lot 38—Fairy by Evergreen Meddier, J. C. Cundiff 21.00

Lot 39—Lady May by Evergreen Meddier, Lafe Clark, Conway Springs, Kan. 31.00

Lot 41—Topsy by Keno Imp, J. S. Hedrick, Conway Springs, Kan. 20.00

Lot 46—Sweetheart by Keno Imp, Lafe Clark 21.00

This being the first pedigree hog sale ever held in Conway Springs, many thought for the time of year it was a fair starter. Every hog sold will double in price in the hands of the purchaser and in the end build a reputation for Jenkins & Clark.

PUBLISHERS' NEWS

The Dain Mfg. Co., 836 Vine street, Ottumwa, Iowa, makes nothing but hay machinery, but it is a big company and it does its business. The company describes hay baler on page 8. Write for catalog above address.

Several manure spreader advertisers are putting their fall advertising in Kansas Farmer. One of these is the Appleton Manufacturing Company, 19 Fargo street, St. Paul, Minn. It's a fine spreader, made of steel and oak. Send for free spreader booklet above address. See ad on page 12.

The Parlin & Orendorff Company, Canada, Ill., has an interesting description of Success Plow on page 16. It is made in all sizes, single or gang. The P. and O. quality in a variety of agricultural implements is way up. A nearby dealer handles them. Write to the company for illustrated catalog C 43.

A land advertiser in Kansas Farmer is H. Berrie, of Eldorado, Kan. He has a Greenwood county farmer and stockman. Last spring he moved to Eldorado, where he has opened an office for the sale of land. He has it for sale in all varieties. He has a fine list and the terms and prices right. Write him your wants.

On page 15 is the illustrated announcement of the Monmouth Plow Company, 122 South Main street, Monmouth, Ill. It is on 30 days' free trial, freight prepaid and for free catalog. The makers sell direct to the user. Better look it up now before you forget it. The Monmouth Plow company also makes disc and spike tooth plows.

In this whole United States there are only three printing offices that feel able to supply the seventy-five million postal cards which the postoffice department uses each month. One of these printing establishments is the government printing office at Washington, which is not only filling this supply, but is doing a good deal of the department printing which has heretofore been let out to private firms.

A useful article which can be bought at low price is a stack cover. No farmer probably ever regretted the money he spent on stack covers. A stack cover made of wood and sold direct to you with one profit made by the Klos Manufacturing Company, St. Joseph, Mo. Read about it on page 15. Address Factory No. 1, care of the Klos Manufacturing Company.

Dodd & Struthers, Des Moines, Iowa. Tell them you saw their ad in Kansas Farmer.

E. N. Davis & Co., Cimarron, Kan., has for sale in Gray county, and it is mighty dirt, too. Gray county is in the famous Arkansas Valley, about 100 miles east of the western boundary of the state. We have just looked over one of the Davis circulars and were favorably impressed with the land bargains offered. They offer land in all quantities, quarter sections up to tracts of several thousand acres. Write us above for their latest list.

The Northwest Pacific Coast country is this year attracting a great deal of attention, and a great deal of advertising is being done to attract still further attention. Portland, the metropolis of Oregon, is through Commercial Club using space in Kansas Farmer on page 8 of this issue. We have in the literature offered and it is exceedingly attractive and interesting. If you are at all interested in Oregon, send for it at the Portland Commercial Club, Portland, Oregon, saying you saw the offer in Kansas Farmer.

The Winfield Nursery Company, Winfield, Kan., has just published a little booklet entitled "Winfield Trees of Quality." This booklet was issued as the means of conveying information to the numerous patrons of this nursery and incidentally to show the worth of their business. This nursery company says that it is very difficult to obtain the pure seed of catalpa speciosa, though most nurserymen advertise that they handle it. It is an important matter to Kansas people, because this variety of the catalpa tree is the one that produces the best timber posts and telephone poles. The writers of the little booklet state that they have no doubt that nurserymen everywhere would buy the pure speciosa seed if they knew where to find it, but many do not recognize it and are thus imposed upon.

Ford Eveners. A new advertiser in our columns is the Ford Manufacturing Company, Rockford, Ill. This company advertises eveners for

three, four and five horse plows. Prices are quoted in the ad. The whole ad is interesting and out of the ordinary. Better read it. It appears on page 5.

When You Buy Catalpas.
The well known Winfield Nursery at Winfield, Kan., has a catalpa ad on page 16. This company sells the real catalpa speciosa. When you buy from this firm you can be sure you get what you pay for. The seed is inspected by the government Forest Service. Write for prices and descriptive matter. Mention Kansas Farmer when you write.

For the Wheat Crop.
Kansas will this fall put in a large wheat acreage. The Van Brunt Manufacturing Company, 124 Van Brunt street, Horicon, Wis., has an ad on page 16 about insuring the winter wheat crop. Of course, it is talk about the famous Van Brunt Single Disc Drills. Read what this advertiser says in the illustrated ad. Kansas Farmer has heard lots of good things about the Van Brunt drills during the past few years. At any rate, it will pay to send a postal for the free booklet. It is good reading. Better write today to above address.

\$1,000 for an Ear of Corn.
To the farmer exhibiting the best ear of corn a breakfast food manufacturer offers a \$1,000 gold and silver trophy cup, which is one of Tiffany's masterpieces—*to win it means an honor to the grower, his state and county.* Men who win such prizes become known in every grain market; every factory where cereals are used as raw material; in the state and United States Department of Agriculture, as well as in foreign lands. This sounds like a broad statement, but L. B. Clore, who won the Indiana corn trophy last year, was offered a position for three years by the Russian government, before he had been home with his trophy three months.

A Good Business School.
There are good, bad and indifferent schools. The Omaha Commercial College is known to be a good school. "A tree is known by its fruit," and this is the rule applied to the Omaha Commerce College in order to determine its value. It turns out the best material in the way of bookkeepers, stenographers and telegraphic operators and its fruit each year is abundant. It enrolls over 1,000 students each year. It turns out scores of graduates who are placed in splendid mercantile positions and yet it is impossible to supply the demand of the business men of Omaha alone. Attending this school means success, a position and rapid promotion. If you would send for a catalog and learn more about it you would be benefited, though you never attended it.

Hill Offers \$2,500 Prize.
James J. Hill, chairman of the board of the Great Northern, has offered \$2,500 in gold as prizes to be awarded for the best grains and grasses grown in the territory along his lines, to be exhibited at the National Corn Exposition in Omaha, Dec. 6 to 18. The money is to be divided into 200 prizes by Prof. C. P. Bull, of the Minnesota Agricultural College and Prof. Thos. Shaw, of the Dakota Farmer. There will be about 40 first prizes for wheat, oats, barley, corn, clover, timothy and alfalfa hay, as well as prizes for speltz and field peas. Details of the contest will be supplied by the exposition at Omaha within a few days and farmers intending to win some of the Hill money should save samples of small grains in bundles, as well as the peck samples of grain.

Veterinarians Earn from \$3,000 to \$8,000 a Year.

The progress and adoption of modern methods by the western farmers can well be noticed by the demand for graduates of recognized veterinary schools. Dr. Sesco Stewart, dean of the Kansas City Veterinary College, said recently: "The demand for graduates this year has been greater than ever. Had our class been twice as large all would have found advantageous locations. A large number of our graduates enter the inspection department of the United States government. I regard the opportunity to build up a large general practice better today than ever before. Some of our graduates write us that they are now making from \$3,000 to \$8,000 a year." The practise of veterinary science offers a splendid opportunity to the young man of today, especially the young man of the farm. Catalog and full information concerning the course of study at the Kansas City Veterinary College will be sent any interested party who will address Dr. S. Stewart, secretary, 1342 East Fifteenth street, Kansas City, Mo. Young men from farms naturally succeed best as veterinarians.

Grasshopper Destroyer.
A new grasshopper destroyer, which has been named the Griddle Mixture, has been in use for some time by farmers in different parts of the country and has lately been given a test by the Michigan Experiment

station. The mixture consists of one pound of Paris green and two pounds of salt, which is mixed with fifty pounds of horse manure, from which the straw has been removed. From one to two pails full of water are used to moisten this and the experiment showed that a shovelful to every four to six rods was sufficient. It was first tested on a forty-acre farm with sandy soil, where the grasshoppers had already destroyed nearly one-half of a twenty-acre hay field. Grasshoppers feed on this mixture very freely while it is moist and hence clear horse manure from which straw and other litter has been removed is best for this purpose because it is more compact and retains its moisture better. In the experiment referred to above it was found that the effectiveness had apparently not been reduced by several rains which fell upon it. So far as demonstrated one application of this mixture seems to be enough for a season.

Mills Realty Company.
The Mills Realty Company, Barnes building, Wichita, Kan., is a regular advertiser in our real estate department. E. M. Mills and R. M. Mills of this company have been in the real estate business for twenty-five years, being located originally at Columbus, Ohio. They were connected intimately in a business way with former Governor Nash of Ohio. They are already well and favorably known in Kansas and are doing a good business. Following is a letter from one of their satisfied customers near Wichita:

"To Whom It May Concern.—This is to certify that I have just been offered, through the Mills Real Estate Agency, of Wichita, Kan., the sum of \$10,000 for my 80 acre farm near Wichita, which farm I bought through this agency in October, 1908.

for \$6,400. At the time I bought the farm this firm assured me that they could get me \$8,000 for it within a year. I have full confidence in the integrity and business methods of the members of this firm, and in their accurate judgment of the true present values of farm land, as well as in their ability to indicate those farm that will have increased future value. Respectfully, S. N. Wertz, July 25, 1909."

These gentlemen would like to demonstrate to Kansas Farmer readers their way of handling land business.

Farmers' First Chance to Get Big Cut on Genuine American Spreader Prices.

Now, you can have a famous, genuine, original American manure spreader, with choice of five styles and five capacities, at a big slash on price, never before possible. This remarkable reduction direct to farmers is just announced. Buyers get exactly the same highest quality—in materials and workmanship, that has made American spreaders for 27 years the standard of the world. Also 1910 improvements. Also same direct from factory savings (including new big cut on all American spreader prices) and 30 days' trial, freight allowed. Same cold rolled steel and malleable parts—durable construction. Same long service guarantee, explained fully in the company's big spreader book. We will also send pamphlet free, a valuable guide to farmers, on the important subject of fertilization, with a mine of practical information for the practical farmer. Get these books. Write also today for these big cuts in prices, made possible only by improved machinery—cost of labor reduced—larger output—better buying facilities—office system perfected—and the altogether greater efficiency with less expense which the manufacturers have been able to accomplish. Write today. Investigate. Cut prices, spreader book and booklet on "Fertilization" promptly sent to readers of this paper if you address American Harrow Company, 1019 Hastings street, Detroit, Mich. Makers also of the famous Detroit tongueless disc harrow, to which many improvements have been added this year. Sold direct at the same saving price on the above liberal plan. If you want a disc ask also for the Detroit tongueless catalog and prices. But get the cut prices on American spreader. See ad on page 8.

Harrowing at the Right Time.
The business farmer, like every other business man, is on the lookout for every means of saving time and labor. For in the busy seasons time and labor are large money factors on the farm. The harrowing attachment, which pulverizes and smooths the soil as soon as turned by the sulky or gang plow, is, cost considered, one of the greatest economizers of time and labor which the farmer can possess. It not only renders unnecessary most of the laborious task of harrowing with the ordinary drag after the plowing of the field is completed, but it accomplishes the work better and keeps the moisture in the ground. The attachment shown here is the rotary disc pattern manufactured by the American Plow Company, 2338 Fair Oaks avenue, Madison, Wis. This company also makes a spike-tooth drag pattern for smoothing the soil when pulverizing is not demanded. This rotary disc pattern is specially designed to pulverize the soil thoroughly. It is even more effective than the ordinary disc harrow, the toothed disc entering the soil more readily than the

SUTTON'S

BERKSHIRE SALE

50 head of our fanciest sows and gilts including 10 tops from Mr. N. H. Gentry's herd, bred to our show boars,

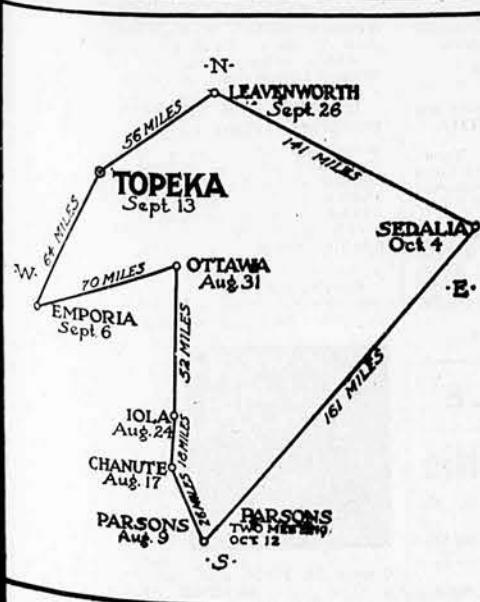
Berryton Duke Jr., Beau Brummel and Lord Baron 2d.

Also a few choice boars and show gilts, will make up the offering.

On Tuesday, August 31st.

If you need show or breeding Berkshires of best "quality" this is your opportunity.

SUTTON FARM
LAWRENCE, - - - KANSAS



The Big State Fair and Live Stock Exposition.

Topeka, September 13-18, 1909.

New Buildings, New Sewer System, New Equipment. Reduced stall rents and increased premiums. Free space for Implements and Machinery. \$20,000 in premiums and the glad hand to you.

Member of the Kansas Grand Circuit with short shipments for each fair. Everybody accommodated and everybody welcome. Exhibits in every department, but especially strong in live stock, implements, machinery, agriculture, horticulture, dairy, poultry, apiary and household. Special money for the Boys' Corn Contest and for pure bred live stock. The best track in the State and a large race entry.

For entry blanks and premium list address

R. T. KREIPE, Secretary, - - - Topeka, Kansas

Mitchell County Breeders' Association

C. B. KERN, President.

Nothing but first class animals offered for sale for breeding purposes.
MITCHELL COUNTY FAIR, SEPT. 23, 24, 25, OCT. 1, 1909.
E. C. LOGAN, President.

J. F. HOWARD, Secretary.

W. S. GABEL, Secretary.

SHORTHORN CATTLE.

SHORTHORN CATTLE—50 head registered cattle. Herd headed by Royal Goods 29325, by Select Goods, by Choice Goods. Young bulls, ready for service, for sale. MEALL BROS., Cawker City, Kan.

SCOTCH AND SCOTCH TOPPED Shorthorns, 40 head. Herd headed by Popular Knight, by Gallant Knight. Some choice bull calves of fancy breeding for sale. JOHN STROH, Cawker City, Kan.

UPLAND HERD OF SHORTHORNS—Headed by Dreadnaught, by Day Dream's Pride (Imp.). Also Hampshire swine. Boars and gilts for sale. GEO. W. BEEMIS, Cawker City, Kan.

ELMDALE STOCK FARM, Shorthorn cattle and Percheron horses. For sale, 7 yearling Select Goods heifers; also a few bulls of same age. Write for description and prices. FRANK P. COOKE, Beloit, Kan.

DUKE OF DUNDEE 28525, by Archer 205740, dam by Gallant Knight, is at the head of my herd. 6 cows by Rose Duke and some by Scotchman. Inspection invited. CHAS. S. McCLEARY, Beloit, Kan.

A PIONEER HERD OF SHORTHORNS—Gloster's Model 287540 by Scottish Gloster 286978. 3 yearling bulls and a few bred cows for sale. Write for prices. ELMER C. CREITZ, Beloit, Kan.

A YOUNG HERD of up-to-date breeding. Everything recorded. Our herd bull Alfonso by Magnet is producing us some great calves this season. BRINEY & BRINEY, Beloit, Kan.

BOOKDELL STOCK FARM. Shorthorn cattle, Poland China hogs, Silver Laced Wyandottes. E. E. BOOKER & SON, Beloit, Kansas.

JENNINGS' SHORTHORNS—Some young bulls for sale by Senator by Hedgehog. Also a few got by Spartan Viscount. Prices right. 2 miles north of Simpson, Kan. S. G. JENNINGS, Simpson, Kan.

FOR SALE—A few young Shorthorn cows and some young bulls ready for service. Best of breeding. Write for information and prices. VINTON A. PLYMAT, Barnard, Kan.

HEREFORD CATTLE.

A FEW HEREFORD bull calves got Hobson 97721 and out of dams tracing through Lamplighter to Anxiety 4th priced later. Berkshire boars, spring farrow, for sale. W. B. & J. M. RODGERS, Beloit, Kan.

50 HEREFORD CATTLE, comprising the H. B. Woodbury herd. Some famous cows in this herd. 8 young bulls of serviceable age for sale. 4 miles from Tipton, Kan. 8 from Cawker City. JOHN SCHMITT & SONS, Tipton, Kan.

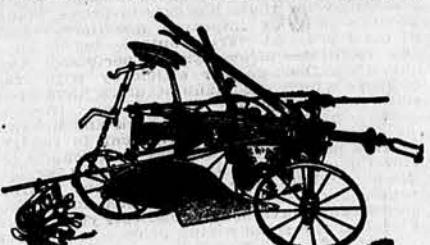
100 HEAD OF HEREFORDS. The home of Castor 259475, the winner in every big show he was ever in. A few choice young heifers and cows for sale. F. L. BROWN & CO., Sylvan Grove, Kan.

ANGUS CATTLE.

ABERDEEN-ANGUS CATTLE—A young but fashionably bred herd. Some fine spring calves to price later. BOY C. BIRT, Beloit, Kan.

ANGUS CATTLE, the feed yard and show yard type. Young bulls for sale this winter. Inspection invited. HARRY BARNE, Beloit, Kansas.

common disc, and pulverizing the surface to the full depth of the tooth at the time when the soil is in the best possible condition for pulverizing. There are three distinct advantages in the American attachment: convenience in handling, interchangeability and adaptability to any sulky plow having a



frame. The illustration shows the attachment on an American sulky plow. It is handled by means of a lever conveniently reached from the seat, and in turning, the attachment is not simply lifted up, like other attachments, throwing the plow out of balance, but with the same movement it is swung over in line with the plow, preserving the balance of the sulky completely. Many farmers find it pays to have both the rotary and drag attachments, as in certain conditions where the soil demands smoothing the drag is superior, while in soddy or clayey ground pulverizing is necessary and the rotary is much better. They are interchangeable on the same frame bar, so that one frame is required for the two attachments. Both styles are made in two sizes, one for sulky and one for gang, and are adaptable to any make of modern gang and sulky plows. The addition to the draft of the plow is inconsiderable. The low cost of these implements, their saving and efficiency, makes them appeal strongly to every owner of a sulky or gang plow. They will save their cost in a single season on an average farm, in economy of time and labor, not to speak of the improvement of

PERCHERON HORSES.

REGISTERED PERCHERONS—The home of Vidocque (Imp.) 40403, also the brood mare Risette (Imp.) 51115. Inspection invited. Farm adjoins town. E. N. WOODBURY, Cawker City, Kansas.

REGISTERED PERCHERON HORSES—In stud: Imported Rabelais 42529 by Cassaque by Théodis, who sired Calypso and Casino. Visitors welcome. C. J. JOHNSON, Solomon Rapids, Kan.

THE HOME OF JACQUE W. 41659 by Tiatroy, dam Imported Risette. Inspection of my Percherons invited. RALPH G. MCKINNIE, Glen Elder, Kansas.

COLEDALE STOCK FARM—The home of three first prize winners at the International. Nothing but the best in this herd. Come and see us. FRANK A. COLE, Barnard, Kan.

GRANITE CREEK STOCK FARM. Percheron and Standard-bred horses. Make known your wants to M. A. SMITH, Supt., Cawker City, Kansas.

COACH HORSES.

LAWNDALE STOCK FARM—Oldenburg German Coach horses. International prize winning stock. A tried stallion for sale. Inspection invited. JOSEPH WEAR & SONS, Barnard, Kan.

POLAND CHINAS.

EUREKA HERD POLANDS—60 spring pigs, both sexes, to select from. Everything at private treaty. Prices reasonable. Write today. W. H. SALES, Simpson, Kan.

LEBAN CREEK STOCK FARM—Poland Chinas, 100 spring pigs, both sexes, for sale at private treaty. Also a few yearling sows bred for October farrow. LOGAN & GREGORY, Beloit, Kan.

DUROC JERSEYS.

GOLDEN RULE STOCK FARM—Gilt edged Durac Jersey. 40 spring pigs, both sexes, for sale at private treaty. Farm adjoins town. LEON CARTER, Asheville, Kan.

ALFALFA STOCK FARM. The home of the best in Durac Jerseys. Choice boars, fall sows, in fact, most anything you want. PEARL H. FAGETT, Beloit, Kan.

HAMPSHIRE.

HAMPSHIRE HOGS. 40 spring pigs, both sexes, for sale. Write for prices. A. B. DOYLE, Rural Route 1, Beloit, Kansas.

OHIO IMPROVED CHESTERS.

O. I. C. SWINE tracing to the famous Kerr families and the Big Mary family. Pigs of both sexes for sale. Write T. C. WRENCH, Beloit, Kan.

AUCTIONEERS.

COL. H. H. VANAMBURG, General and Live Stock Auctioneer. Phone 434. BELOIT, KANSAS.

COL. F. L. SMITH, General and Live Stock Auctioneer. Phone 943. BELOIT, KANSAS.

SMOKY HILL RANCH

Galloway herd, headed by Pat Ryan of Red Cloud 20028, Fairlight 2d of Tarbreoch 24472 and Valarius 29088. Bulls and heifers for sale from my herd of 180 registered Galloways.

E. J. GUILBERT, GHI, Kansas.

RED POLLED CATTLE.

COGURN HERD OF RED POLL. Choice young stock of both sexes for sale: also a few cows.

GEO. GROENMILLER & SON, Pomona, Kansas.

FOSTER'S RED POLL.

15 choice young bulls, a few good females and our 2,400 pound herd bull, Dandy S 9174 for sale at bottom prices. CHAS. FOSTER, & SON, Eldorado, Kan.

SHORTHORN CATTLE

Evergreen Home Farm.

Milking Shorthorn cattle, bred Hornless. Berkshires Hogs, Oxford Down Sheep, Bourbon Red Turkeys. LATHROP, MISSOURI.

CEDAR BLUFF SHORTHORNS.

100 head headed by Double Standard Orange Cup X5565 (253226). SHAW BROS., Glade, Kan., Roos County.

JEWEL SHORTHORNS

A young herd of up-to-date breeding. Also Percheron and Standard bred horses. In stud: the Percheron stallion Marquis De Wierre (Imp.). Also the Standard bred stallion, Red Seth \$1185. Farm adjoins town. Come and see us.

W. T. LOWE, Jewell, Kansas.

Spring Hill Shorthorns

300 Head Scotch and Bates Pedigrees

C. G. COCHRAN & SONS, PLAINVILLE, KANSAS.

20 Shorthorn Cows and Heifers

All are bred or have calf at side.

3 GOOD YOUNG BULLS that I am sure will suit. Everything nicely bred and in good condition. Moderate prices.

D. H. FORBES & SONS, Topeka, Kan.

R. F. D. No. 8, Bell Phone 81.

SHORTHORN CATTLE

GREENDALE STOCK FARM.

25 YOUNG BULLS by Imp. Ardmore Mystery and Best of All for sale at rock prices. Can also offer some good Berkshire swine and Shropshire rams. Correspondence solicited.

COL. ED GREEN, Prop., Florence, Kansas.

RENO HERD SHORT HORN CATTLE

Bulls in service. Forest Knight 22608; Victor Archer 264156. Breeding stock for sale.

Stewart & Downs, Hutchinson, Kan.

FOR SALE.

10 choice young bulls from 8 to 12 months old, part straight Scotch. Choice yearling and short two-year-old heifers.

Good colors, bright red, priced right.

C. W. TAYLOR, Pearl, Kan.

Address mail R. F. D. 2, Enterprise, Kan.

Prospect Farm Shorthorns

The oldest Shorthorn breeders in Kansas. The largest herd of Cruicksanks in Kansas. Herd headed by Violet Prince 140 and Orange Commander 220590. Large stock of both sexes and some crows for sale. Quality and prices right.

H. W. McAFEE, Bell Phone 59-2. Topeka, Kan.

HOLSTEIN CATTLE

HOLSTEIN-FRIESIAN BULLS--COWS--HEIFERS

I am now offering three loads of registered Holstein-Friesian bulls, cows and heifers for sale; just purchased from the best herds in New York state. Ages 4 months to 1 year old price \$50 to \$125. I also offer a car load of cows and a car load of yearling and two-year-old heifers for sale. Write me or come at once and make your selection. Address HENRY C. GLISSMAN, "Rock Farm," Sta. B, Omaha, Neb.

EAST SIDE DAIRY HOLSTEINS. Offers choice young bulls, cows and heifers, breeding and individuality of the herd. Several bulls for fall service.

F. J. SEARLE, Prop., Oskaloosa, Iowa.

BRAEBURN HOLSTEINS

Bull calves from dams yielding 15 pounds of milk in a year, and yearling heifers.

M. B. COWLES, Topeka, Kan.

HOLSTEINS AND JERSEYS

Choice young stock, heavy milking strain. Some extra good bull calves, either breed.

HUGHES & JONES, Topeka, Kan.

BERKSHIRES

BRAEBURN BERKSHIRES

Young pigs, high class in quality breeding.

H. B. COWLES, Topeka, Kan.

BAYER'S BERKSHIRES. Herd headed by Field Marshall, first at Sedalia and second at St. Joseph, Mo., in junior yearling class, 1908; assisted by Lee's Masterpiece. Young boars ready for service, and boars for sale. J. T. BAYER, R. B. Yates Center, Kan.

MAPLE HEIGHTS HERD BERKSHIRES

A fine bunch of long bodied, smooth spring pigs ready for shipment, also a few show yard pigs. Extra gilts and boars.

Write or come and see them.

J. M. NIELSON, Marysville, Kansas.

FOR SALE—Yearling boar by Far Kink. Very few boars. Spring farrow. Good ones. Few gilts. Prices reasonable. Write before buying. MANWARING BROS., Lawrence, Kan., R. D. 1.

BERKSHIRES—OVER 250 HEAD TO select from. Choice boars and females of various ages. Baron Duke 75000 and Masterpiece 77000. Spring pigs for sale. We guarantee satisfaction.

Write LEON A. WAITE, Winfield, Kan.

BERKSHIRES OF MASTERPIECE AND PREMIER LONGFELLOW strains. 75 boars and gilts begin farrowing Aug. 1. Bred for size, bone and milking qualities combined, with finish. Good backs and bodies, as well as good heads. They are useful as well as fancy. Pork, pigs and bouillabat rams.

E. D. KING, Burlington, Kansas.

SUTTON BERKSHIRES

10 fancy show stock \$75 to \$100; 100 fancy sows and gilts \$35 to \$50; 10 gilts bred to show boars.

3 SHOW BOARS

Fancy enough head the best head in the land. Above are all sired by Duke Jr. 7741, Lawrence, Kan.

After vaccination, we will receive

5 weeks a week.

5 weeks a week.

5 weeks a week.

5 weeks a week.

5