

# KANSAS FARMER

FOR THE IMPROVEMENT

OF THE FARM AND HOME

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## The Care of Farm Machinery Pays

### An Important Though Neglected Element In Farm Conservation

The greatest need of American farms is not more work but more thought. The land needs thought and of the best but who shall give it if not the owner. Today we are the best fed, the best clothed and the most prosperous nation on earth, but this prosperity has come through the skimming of the rich cream of virgin fertility which lasted until now.

In the east many farms are abandoned and others are not profitable. In the west land has advanced enormously in price because of its native fertility but this is showing signs of depletion and the farmer of today is confronted by the problem of using better methods or of facing financial loss. Our political and civic policies have been of such a nature as to foster the industries which find their natural homes in the cities. Until recently little has been done to foster the greater and more important, because fundamental, business which is carried on in the farming regions. For three centuries American civilization has lived upon the spoils of conquest and inherited wealth and has wasted its resources with a lavish hand. Even now we are shipping out of the country millions of tons of our best phosphate rock which is the only kind of plant food that we shall ever need to buy and which, if applied to our own lands would be worth a billion dollars in the increased supply of food instead of the few millions that it now produces by outright sale and the consequent robbery of ourselves.

Our people need educating along the lines of conservation. Much has been done but much more remains to be done. Now is the time for the greatest accomplishment along this line as only a prosperous nation can afford the trained intelligence or education of its people. A poor nation can not train its people because poverty is helpless and consequently ignorant and indolent. Men who have made money on the farm can perhaps realize that the conservation or soil fertility means more money in the future while the lack of it means the practical abandonment of the rich acres which can produce for about one generation only without man's help.

Much has been said and written about the selection of seed, careful methods of cultivation and tillage, the proper housing and curing of crops, the saving and application of manure and other matters which together are embodied in the term conservation. It is generally understood that all these and more are necessary if our children would inherit the land which made us rich.

The prominent question before the American farmer today is that of reducing cost of production. The methods which he has already learned show him how to produce quantity and quality. The method which he must learn will show him how to produce at a lower cost. The whole subject of conservation of soil fertility, productive methods of farming and economical production is included in the idea of careful methods. With proper care better seeds are used, better methods are practiced, more of the resources of the farm are utilized, the crops are housed in better condition, and the farm products are marketed to greater advantage.

One of the best methods of reducing the cost of production and thus

conserving the resources of the farm lies in the proper care of farm machinery. This is the day and age of the machine and the results obtained on the American farm today are due in no small degree to the improved machinery which is available to the farmer and which is made to take the place of much of hand labor. With this new machinery the work is better and more expeditiously done and greater profits are realized. Under the old hand labor system crops could not be planted in season nor harvested promptly because of the uncertainties of farm help and the necessary slowness with which hand labor is performed. With machinery the farmer of today has been able to supply the food of the nation in such a manner that one man now does the work of many, and does it better. Farming is a business proposition rather than a haphazard avocation.

The modern machinery on the well conducted farm of today represents a large investment of money and yet each implement, while extremely valuable, has but a short yearly period of usefulness. The binder is used but a few days or a few weeks at most and then remains idle for the balance of the year. Plows have but a short season of usefulness when they must rest for many months. The same thing is true of all kinds of farm machinery. Excepting the wagons and other wheeled vehicles almost none of them have continuous use throughout the year.

Having so large an investment in machinery it follows that the items of wear and tear are considerable and worthy of thought by the farmer. It also follows that any reduction of this wear and tear or any saving which may be made for repairs is an item of profit and just as valuable to

him as is a dollar earned. While in active use there must be more or less wear on all machinery. This is reduced to the minimum, however, by proper adjustment of the machines themselves and the use of lubricants on the wearing parts. When the machines are idle they suffer another kind of deterioration which is less frequently guarded against.

Sunshine and rain will do more damage to farm machinery than it will suffer through all the active use it is given in farm operations. Machinery is constructed of steel and wood, one of which is subject to rust and the other to shrinkage and cracking. To leave machinery exposed to all kinds of weather has the same effect upon it that it would have on house furniture and no one would think of leaving his house furniture out in the weather.

There are two solutions to the problem of the conservation of personal resources through the care of machinery. One of these is the use of paint and oil, and the other is the use of point, oil and an implement shed. Instead of leaving the machine in the field where it is last used and where its deterioration begins immediately it should be taken to the barn yard and given a thorough coat of paint of good quality and the metal parts oiled or greased as a protection against the weather. A little time spent in overhauling and cleaning up each implement will be profitable and the profit will be greater if this work is done after the season's use for this implement rather than in the rush which always comes just before it should be put into service again. All the bolts should be tightened up, the bearings and wearing parts saturated with a good grade of machine oil and the plow lays and other polished parts thoroughly cleaned and covered with a heavy oil, a thick grease or even with a coat of paint. The paint can be easily removed with the aid of gasoline in the spring and the little care spent at this time will save the team, the man and his money when the active season for use again begins.

One of the most valuable investments that can be made on the farm is a good machine shed in which all machinery can be stored when not in use. Statistics show that such an investment will return at least 30 per cent and this is a considerable profit to be gained in a very easy way and short time. Such a shed will increase the life of machinery from 50 to 100 per cent. Even at present prices for lumber and material a good machine shed measuring 16 by 32 feet on a concrete foundation would only cost from \$125 to \$150. Such a building will house all the machinery on the average farm and bring big profits. If this shed were to last only fifteen years and were to cost a small sum occasionally for a coat of paint and possible repairs, it would make the cost of sheltering all the machines on the farm only about \$20 per year. Such a small annual cost would pay many fold in the saving of depreciation of farm machinery.

One of the biggest items of expense on the farm and one which serves to reduce the profits perhaps more than any other is the cost of machinery. If this cost can be reduced to one-half by doubling the life of the machinery then a big item of saving has been

(Continued on page 7.)

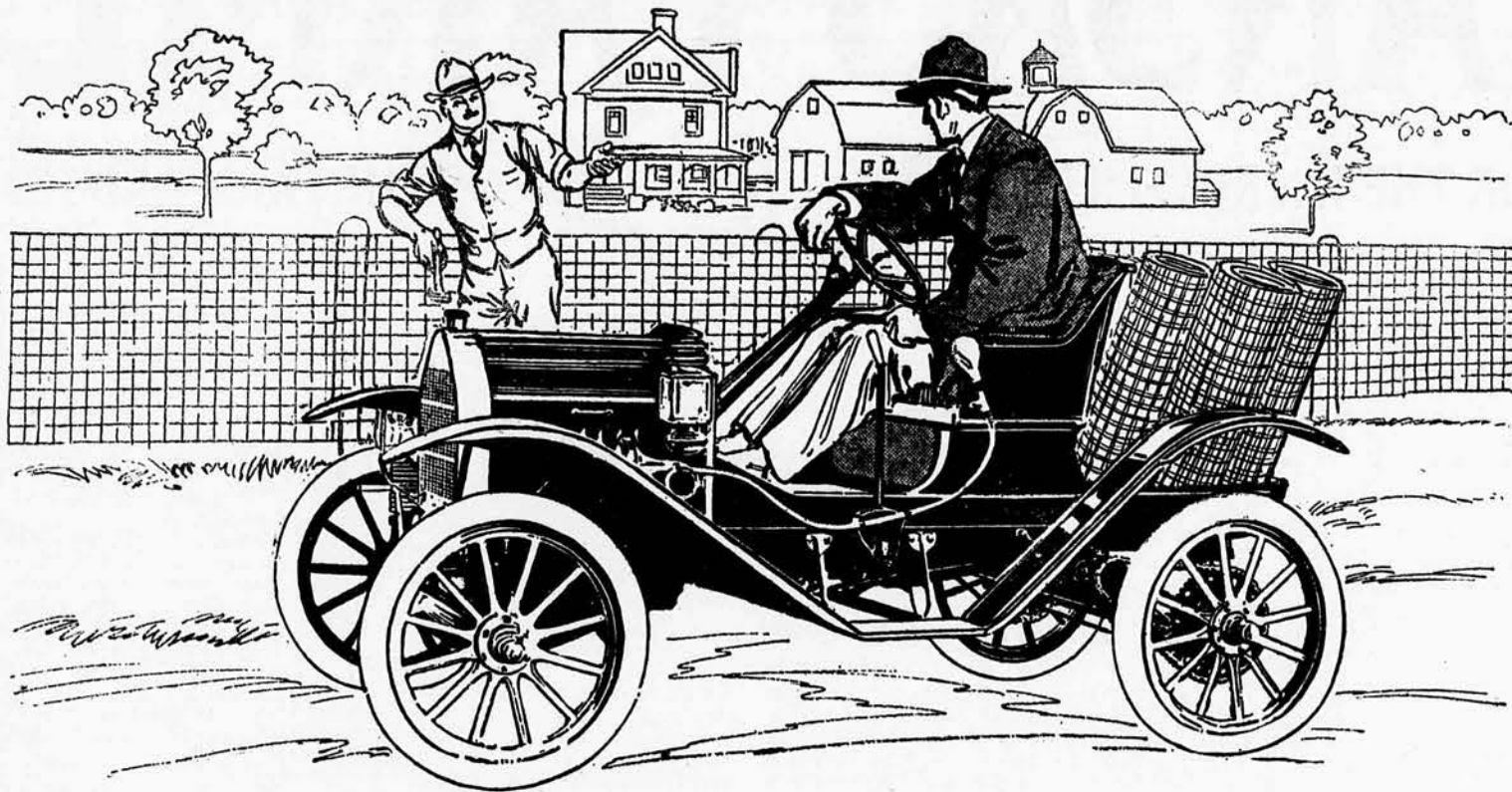
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# KANSAS FARMER

## EDITORIAL



### THE NEEDS OF K. S. A. C.

There never was a time in the history of the Kansas State Agricultural College when it was not in need of funds. There never was a time when it was not actually hampered for want of them. This has not been due to any extravagance in expenditures or to any lack in judgment as to a wise use of its resources. It has been due to the fact that in its earlier years its appropriations were very meager and in its later years to the wonderfully rapid growth of that institution.

An educational institution of this kind must grow if it serves the purpose for which it was created. When it ceases to grow it begins to die. This growth is not shown entirely in the increased number of students, though that is important, but, as the world grows in human knowledge and the demands of civilization increase, there must be larger equipment of both men and means if the college would remain at the head and be a leader in thought and action.

The agricultural college and experiment station together constitute the source of agricultural knowledge. From them must be drawn new information about the business of farming as well as new methods. Together they perform a double duty in the training of the young men and women who enter these classes and in furnishing new scientific and practical information to all the people of the state.

There is no institution in the state that has been conducted more economically than the Agricultural College and there is no like institution in the United States that has produced such great results with so small a working capital.

Just now the college authorities are announcing the estimates of funds necessary to provide for maintenance and growth in the next two years and there can be no doubt that, if the members of the legislature really understood and appreciated the tremendous importance of this institution and the immense value of the work it does, the request for funds would be granted by unanimous votes. If these legislators could see how every department is crowded by the 2,500 young men and women who compose its student body; if they could see how these young people are forced to recite in cellars and attics and even out of doors because of lack of room; if they could realize the utter folly of hampering such an institution in its work of training the future citizens of the state, they would go a step further and create an endowment fund which would forever remove the necessity of this institution begging for its very life at each session of the legislature.

Reckoned in dollars and cents the money invested in this college has been the biggest paying investment ever made by the state while the education furnished to its citizens may be considered as clear profit. Its experiments and discoveries in grain crops alone would more than pay the running expenses of the college, while the work in live stock, horticulture, chemistry, veterinary science, domestic science and other departments has returned a clear money profit, and the education furnished our citizens has been free.

We cannot afford to hamper this institution for want of a little working capital which pays such enormous dividends. Nor can we afford not to provide for its permanent maintenance and growth.

Between suns on one day last week about 1,000 farmers turned out with their teams and built a modern road between the cities of Coffeyville and Independence, in Montgomery Co., Kan., a distance of 20 miles. This road had been surveyed about 30 years ago but never built. With co-operation and enthusiasm the work for which they had waited nearly a third of a century was done in a single day. Is there a farmer in Kansas who would not be willing to give one day's work of himself and team to secure a good road between his farm and market town? Why not have an annual good roads day for such cooperative work? Surely this is fully as important as arbor day which we already have.

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

What is the matter with having a tennis court on the farm? It does not take much labor to construct one, and it is well worth while. The writer passed a farm the other day on which one of the most attractive features apparent from the road was a nicely laid out tennis court, which had been well made and about which were some ornamental plantations and shade trees which made of it a beauty spot on the place. While a sod court is perhaps the most beautiful and most attractive, it is also the most difficult to maintain. Other materials can be used, among which none is better than cement, but this is rather expensive and a dirt court is perhaps the most satisfactory after all. A tennis court is 78 feet long by 36 feet wide. The sod should be removed and earth thoroughly rolled and sanded. Some labor is necessary to secure a level surface, and after this is done the least disturbance possible of the surface should be made. Haul some sand on the court and then roll it thoroughly until it is hard. This will serve to give the best surface and at the same time avoid mud in times of heavy rainfall. After a rain and when the surface is soft, nothing should be allowed to grow upon it. The backstops may be made by erecting poles of suitable height, to which poultry wire is attached, and when all is done a place of amusement for the family, as well as of entertainment for guests, is provided that has few equals. Even the hired man who comes in from a day's plowing will be glad of an opportunity to limber up on a tennis court in the evening.

After reading so many reports about the return of disappointed Americans who had gone to the wheat regions of Canada to better their financial condition it does not come as a startling surprise to read in the Consular reports that many American families who moved to Mexico are in a destitute condition. This condition is said to have been brought about because the emigrants were induced to buy land in Mexico "sight unseen," and got worsted in the bargain. It always pays to investigate before buying but it pays better to stay in little old Kansas.

Argentina is the United States of South America, and in the production of big crops and high quality of live stock is likely to give Uncle Sam a sharp race. We just read of one farmer down there who had 55,000 acres in alfalfa from which he cuts 6 to 7 crops each year.

Farmers in Smith county are reporting the heaviest yield of corn and the largest crop of apples that were ever harvested in the history of that county. An average of 90 bushels of high quality of corn is reported from a number of large fields and the general average for the county is excellent.

### HOG CHOLERA. AGAIN.

The Manhattan papers report an outbreak of hog cholera in the Ashland district near that city, by reason of which several farmers have lost heavily. Mr. A. F. Huse is reported to have lost more than \$1,000 worth, although the whole district is readily accessible to the college and to the anti-hog cholera serum treatment. These losses are not due in any sense to the inefficiency of this treatment or of the college officials, but to the cumbersome machinery of the law which compels the owner to go through a certain amount of red tape before he can make the remedies available in his herd. As before stated in the columns of the KANSAS FARMER, the present law requires the owner to report to the Live Stock Sanitary Commissioner at Topeka, who is in turn required to visit the herd and determine whether it is infected with a contagious disease or not, and if so to call out the State Veterinarian for action. No complaint is made of the efficiency of the State Sanitary Commissioner, or of the State Veterinarian, but of the round about method through which the veterinarian's services must be secured if at all. The Manhattan papers state that it requires about a week or ten days to get through with the necessary red tape before the hogs can be actually treated and that during this time many of the hogs die.

The present and prospective situation in the corn market ought to put a quieting touch on the magazine-built sentiment of "back to the farm." Corn has dropped about 16 cents in price since August 1 and the prospects for anything like a good price are not bright. City folks don't want to try to raise 40 cent corn. It takes a real farmer to do that, and he must feed it to stock in order to break even. One year ago the price of December corn in Chicago was 59½ cents; this year it is 46½ cents and it will not rise much. The farmer who can feed his crop is the wise one.

Dr. H. W. Wiley, the famous chemist and pure food expert of the Department of Agriculture, is quoted as saying that the present drop in prices of packing house products is abnormal and due solely to manipulation. It is true that meat prices do not generally fall at this season of the year and the well known scarcity of hogs in particular would seem to indicate higher rather than lower prices.

On August 28, 1830, the first American built railroad train made its initial journey. The train carried passengers in its one little car and made a trip of 14 miles in one hour and 15 minutes, to the utter astonishment of the "natives," who predicted all sorts of dire calamities from such speed madness. This was the beginning of the Baltimore and Ohio railroad, the oldest American road.

### SWEET CLOVER FOR POOR SOILS.

Ordinarily sweet clover is ranked as a pestiferous weed that has no economic value and is hard to get rid of. Of course the bee man does not agree with this opinion as he sees one of the best possible food plants for bees in this same sweet clover. To the common, everyday farmer, however, this plant is a weed and as such an enemy.

Every one has noticed, perhaps, that the sweet clover or Bokhara clover as it is called, has a habit of growing on clay banks, in washed out ditches, railroad cuts and everywhere in places where nothing else will grow. In this habit lies its immense value. It is a legume and is very closely related to alfalfa. In fact it is said to be the only other clover which can inoculate the soil so that alfalfa will grow and produce seed.

There are two common varieties, one having white blossoms and attaining a height of 6 to 8 feet and the other with yellow blossoms growing to 3 or 4 feet.

Like the alfalfa it has the power of collecting nitrogen from the air and storing it in the root system, thereby enriching the ground. In flooded districts where the soil has been washed away this plant will not only grow as nothing else will but it will restore the fertility of the soil.

In certain regions of Kentucky large areas of land had been farmed in tobacco until it ceased to be productive. It was badly washed and in many cases abandoned as not worth the taxes. With the introduction of sweet clover this land has all been redeemed and is now yielding profitable crops. In this section it is used for both hay and pasture, the yellow blooming variety being preferred on account of its finer quality. Stock will eat it after they learn to like it. The white variety seems to improve the land more rapidly though it is less valuable for either hay or pasture.

It is not recommended as a staple crop but for redeeming clay points or washed over lands where the soil has been removed or on lands that have lost their fertility there is no known to modern agriculture that equals it as a restorer of fertility.

In the famous wheat fields of the Canadian northwest it is said that the farmers expect to raise only from 12 to 15 crops when the land is abandoned. This is exhausting the soil with a vengeance. In this country we are told that the farmer will soon have exhausted all of the natural fertility of the land and that he must come to intensive methods. This is true, but there is no reason for waiting until the soil is exhausted or even until it begins to show signs of depletion. Every crop takes of the fertility of the soil and the bigger the crop the greater amount of fertility is consumed. Intensive methods are not new or mysterious to be used only by specially trained experts. Intensive methods are simply careful methods in which good seed, good tillage and good horse sense are used. Such methods will contribute more to the national and individual wealth of this country than any other thing. Let us quit mining the land and farm it a while.

At Junction City there is held a regular monthly sale at which large offerings of live stock are made. At the November sale there will be offered, in addition to about 200 head of horses and cattle, a number of automobiles. These cars are put into the auction sale by men who want to secure larger and later cars and who take this means of disposing of them. In what other land on earth are automobiles auctioned off to farmers in public sales.

Manufacturers of lead pencils have such difficulty in securing suitable wood that they are buying up the old rail fences in localities where they were built of cedar.

At the hotel a 6 pound planked steak costs \$4.50. For this the retail dealer receives \$1.38, the wholesaler, 99 cents and the farmer who produced it gets only 48 cents. "Back to the farm."



# A System of Soil Culture—Three Steps

So far as cultivation is concerned there are three principal steps in the conservation of soil moisture:

1. The soil must be loosened to a considerable depth in order to prepare a reservoir to receive the rain and to carry the water downward into the soil. This is accomplished by deep plowing or by disking unplowed lands.

2. The water which is carried downward into the subsoil must be brought back again into the surface soil where the seed is germinating and the roots are growing, and to accomplish this, a good connection must be made between the furrow-slice and the subsoil, and this is the purpose in the use of the subsurface packer.

3. Finally, in order that the water which is drawn up toward the surface by capillary action may not reach the air and be wasted by evaporation, the upper two to four inches of soil must be kept mellow, in the form of a soil mulch, which is accomplished by frequent cultivation, and this is applicable not only to corn and other intertilled crops, but also to wheat and other small grain crops.

## SYSTEMATIC TILLAGE.

Disking the land before plowing puts the soil of the furrow slice into better condition to reunite with the subsoil when the furrow is turned over. The smooth, hard furrow bottom, as left by the ordinary plow, is unfavorable to the proper union of the furrow slice with the subsoil. In order to cause a more complete union of the furrow slice with subsoil, the bottom of the furrow may be loosened by means of a shallow subsoiling attachment to the plow.

Such a system of culture is intended to favor the conservation of soil moisture, and is thus especially adapted to regions where a limited or irregular rainfall makes the most careful methods of soil culture necessary in order to store and conserve the water in the soil and get the most use from it in the production of crops.

## TILLAGE AND FERTILITY.

The principles stated above have been known and practiced more or less for a long time and are mostly included in the Campbell system of culture. H. W. Campbell was among the early apostles of dry land farming in the West, and has perhaps done more to call the attention of western farmers to the necessity and advantages of thorough cultivation of the soil than any other investigator. The method of culture advocated by Mr. Campbell is, in fact, simply good tillage and thorough cultivation of the soil at the right time, in the right way, and in a systematic manner.

Good farming pays, everywhere. The writer believes in the practicability of thorough tillage and good cultivation on every farm, and the increase in crops by such farming will more than pay for the extra labor, and in a series of years should leave our farms in a better state of fertility and more capable of producing crops than may result from the careless and shiftless methods of farming which are yet too commonly practiced by many farmers throughout the west. The greatest problem in western agriculture today is not how to get larger crops out of the soil for a few years, but rather how to produce paying crops every year and at the same time maintain the fertility and productiveness of the land.

## IMPLEMENTS AND METHODS.

It is not necessary to have extra machinery in order to successfully practice the system of culture outlined above. The only implement required or recommended which is not in general use on every well-equipped farm, is a subsurface packer.

The use of the packer is most essential on late spring plowing when the purpose is to plant at once after plowing. It is not so necessary to use the subsurface packer on fall plowing which is not intended to be planted until the following spring, but for sowing fall wheat, if the plowing preceded the sowing by a very short interval, the subsurface packer may be used very advantageously.

When land is allowed to lie for a considerable period after plowing before the crop is planted, the settling of the soil, together with the cementing due to rain, usually causes the soil to repack and firm up to a sufficient extent to make a good seed-bed.

## Recommendations By An Expert Who Knows Whereof He Speaks

Prof. A. M. TEN EYCK, Fort Hays, Kan.

efficient extent to make a good seed-bed.

The subsurface packer is a hard-running machine, and it costs much more to use it than it does to use the common harrow or even the disk harrow. Thus, at the Kansas Experiment Station we have adopted the practice of early plowing whenever it can be done, in preference to subsurface packing, using the harrow or the disk immediately after plowing. However, the principle involved in the use of the subsurface packer is correct, and the lighter the soil and the greater its tendency to remain loose and mellow the more necessary becomes the use of the subsurface packer or similar implement, in order to prepare a proper seed-bed.

In plowing under trash or manure, subsurface packing, by pulverizing the bottom of the furrow slice, sifts the soil through the coarse trash and causes a better union with the subsoil below, so that the capillary water may be drawn up into the surface soil, whereas, if a heavy coat of stubble or manure plowed under in this way is left without packing or pulverizing, the furrow slice is apt to dry out and the crop that is growing on the land may be injured by a short interval of dry weather. By setting the disks rather straight and weighting the harrow, a disk harrow may be used as a substitute for the subsurface packer, resulting in a pulverizing and firming effect at the bottom of the furrow slice. Very often, however, good plowing, with the proper use of the common harrow, may largely accomplish the results required in preparing a proper seed-bed. It is usually advisable to weight or ride the common straight-tooth harrow in order to cause it to stir and pulverize the soil deeper and prevent the "slicking" effect which is apt to result from light harrowing.

## DEEP PLOWING.

Some types of soil can be plowed deeper than others, and the writer believes in deep plowing, at least every few years. The deeper loosening of the soil not only makes a larger reservoir to catch the rain, but it gives more room in which the soil bacteria may develop and prepare the plant food.

It is known that certain bacteria in the soil have much to do with the preparation of the food for plants, and experiments have shown that these bacteria are found largely in soil, or in that part of the soil which is turned with the plow and stirred with the cultivator; thus deep plowing favors the development of the bacteria and the preparation of more available plant food than is the result from shallow plowing. The depth and frequency of plowing will vary according to the nature of the soil, a light or sandy soil requiring less depth of plowing and less frequent plowing than a heavy, compact, clayey or "gumbo" soil.

## A NEW METHOD.

A new method for preparing the seed-bed for wheat is now coming

into general practice in western Kansas. The plan is to list the ground with the ordinary corn lister as soon after harvest as possible. The lister furrows are run about three to three and a half feet apart, very much the same as when the lister is used for planting corn. Later, when the weeds have started, the soil is worked back into the lister furrows by means of a disk harrow or disk sled or disk cultivator.

The disk sled has just recently come into use and is considered a preferable implement to the disk harrow. This sled is constructed with extra large disks, especially for this purpose, but the sled may also be used for cultivating corn. The sleds are made to cultivate either one or two rows.

Several cultivations are usually required by the disk harrow in order to bring the field into good seed-bed condition. Once over with the disk sled is usually considered sufficient, the further work necessary to prepare the seed-bed being given with the common harrow or other cultivating implement.

In a dry climate this method of preparing the seed-bed has these advantages: The cultivation of the land soon after harvest tends to conserve the moisture already stored in the soil. The furrowed land is in good condition to catch and store the rain and the later cultivation clears the land of weeds and leaves a mellow soil mulch to conserve the moisture which has been stored in the subsoil. The early and continued cultivation of the soil favors the action of the bacteria and the development of available plant food.

By practicing this method of farming the farmer may cultivate a larger area early in the season when the soil is in good condition to cultivate, whereas if it had been necessary to plow the whole area, some of the land might have become too dry to plow well. Likewise the later plowing leaves the soil too loose and not in good seed-bed condition.

By several cultivations with the common harrow, after the ridges have been worked down with the disk sled, the soil may be well pulverized and firmed and put into good seed-bed condition. In fact, as will be observed, the larger part of the seed-bed area has not been loosened deeply, and even with little or no rain to firm the seed-bed the subsurface soil remains firm and the seed-bed is in ideal condition to start the wheat.

## THE SOIL MULCH.

In the ideal system of culture the purpose is to keep a mellow soil mulch on the surface of the land all of the time, not only during the growth of the crop, but also in the interval between harvest and seeding time. Thus, after the crop is planted, the land is kept cultivated with the weeder or harrow in order to break the surface crust and conserve the soil moisture, and following out the same principle, the harrowing or work with the weeder is continued after the grain or corn is up, and during the growing

period frequent cultivation is required for intertilled crops.

## DISKING AFTER HARVESTING.

After the crop is harvested the cultivation is not discontinued, but the surface of the soil is loosened as soon as possible after the crop is removed, by the use of the disk harrow, and thus the soil is kept continually in a condition to not only prevent the loss of water already stored in the soil, but also this same condition and mellow surface favors the absorption of rain and largely prevents the loss of water by surface drainage.

The smooth, finely pulverized surface left by continuous light harrowing really defeats the purpose of the cultivation, since soil in such condition will shed heavy rains, causing a waste of water which should have been stored in the soil, and the surface often becomes too fine and compact, preventing the proper aeration of the soil and producing an unfavorable seed-bed condition. Thus, during the interval between crops, it is sometimes advisable to use the Acme or the disk harrow in order to keep the surface of the soil open and mellow.

## HARROWING WHEAT.

The weed harrow or weeder is probably better adapted for harrowing wheat or other small grain than the common straight-tooth or slanting tooth harrow. The weeder is somewhat objectionable on account of the wheels. When the ground is reasonably firm the common harrow may be used without injury to the wheat.

The writer questions whether it is necessary to continue the harrowing after the wheat covers the ground well, unless heavy rains firm and puddle the soil, destroying the mulch of mellow earth. Usually this will not occur.

In a single trial, wheat was harrowed when it stood five or six inches high and had stooled so as to nearly cover the ground, and the mulch thus produced was still in evidence at harvest time. In this experiment the ground was harrowed twice on the same day. The yield of wheat on the harrowed plot was, on the average, three bushels per acre above that from the field adjacent, not harrowed. This experiment, with others, was carried on at the North Dakota Experiment Station with spring wheat, and it was observed that wheat harrowed before it had stooled much was injured in stand and gave a lower yield of grain than wheat not harrowed.

## A Hog Feeding Problem.

I write this to encourage Prof. G. C. Wheeler on his article on "The Hog as a Money Maker." I would like to get this information from the Professor. I am short on corn and long on alfalfa hay this year on my place near Peru, Kan. I want to know the very least amount of corn that I can feed and the largest amount of alfalfa per hog to fatten about 70 head. I would thank him very much for this information. I only want to keep the necessary amount of alfalfa.—W. S. Conness, San Antonio, Tex.

Your correspondent fails to state the present size and condition of the hogs which he is expecting to fatten for market. I assume, however, that they are thrifty spring shoats and that he wishes to put them on the market at the least possible cost. It is a fairly well understood fact that it is not a profitable thing to fatten on corn alone. In the various Experiment Station tests that have been made at the Kansas Station a ration of corn alone has very seldom given gains to exceed one pound per day, costing in feed at the rate of about 600 pounds of corn to the hundred pounds of pork produced. By the use of a properly balanced ration in which some supplemental feeds containing relatively large amounts of protein are introduced, the cost of producing a hundred pounds of increase has been made as low as 360 pounds of feed. I find in going over our experimental data that where alfalfa has been supplied as a supplemental feed to a straight corn ration it has required in the neighborhood of 560 pounds of corn and 85 to 100 pounds of alfalfa per 100 pounds of increase. Where meat meal or tankage has been used as a supplemental feed the average results of ten trials including 106 hogs shows

(Continued on page 10.)



The graveyard of farm implements that were not protected against the weather.



## The Silo in Beef Production

It has been demonstrated beyond question that the silo is the cheapest and readiest means for the preservation of field crops in a succulent state for the feeding of cattle. Farmers who handle milk cattle never raise any question about its value and where possible they take advantage of it for the double purpose of saving their entire crop of corn and for furnishing succulent feed during the dry spells of summer as well as during the winter months. They also have the advantage of storing their entire crop under shelter where it is easily handled and fed without the necessity of going afield for it in stormy weather.

Growers of beef cattle, however, have been slower to appreciate its value although experiments have demonstrated that it has such a value for beef animals as well as for dairy. It has also been proved by experimental tests that it has a high feeding value when fed in connection with grain and other feeds, although it does not furnish a complete ration in itself.

From such figures we gather that one ton of silage is equal to one ton of sugar beets. Three tons of silage equals one ton of clover hay, and three and one-half tons of silage equals one ton of alfalfa. Its value is nearly equal to that of pumpkins, and its average cost for putting up is 63 cents per ton as compared with \$1.50 per ton for hay.

Silage has the advantage of being much more compact than other rough feeds and one ton will occupy only 50 cubic feet, while a ton of hay occupies 500 cubic feet. It therefore follows that one can store ten tons of silage in the space required for one ton of hay, and since silage can be put up for about one-third the money necessary to put up hay, it becomes as cheap a feed although the hay is richer in food elements.

If an acre of corn of average yield is husked and put into the crib it is worth about \$27 or \$28, while the stalks and leaves remaining in the field have comparatively little value as they bleach out in the weather so quickly. If this same acre of corn is put into the silo it has a value of \$55 or double that treated the other way. Therefore, an acre of corn in the silo is worth twice as much as it is in the field, or in other words, the silo has doubled the value of the corn crop.

It has been shown that an acre of corn which yields eight tons will maintain two animals for a year while it will require three acres of pasture and meadow to keep one animal. Figured in this way the use of the silo enables the farmer to keep six times as many cattle on his land as he could without it.

The stomach of the cow is not changed by any change in feed that may be given her and she will continue to fulfil her functions whether they be the production of beef or milk. If beef animals are being fed and the pasturage runs short in the summer, their rations can be supplemented with silage without their los-

ing a pound of flesh. It has been shown that dairy cattle will keep up the flow of milk during the dry period of summer when fed on ensilage just as well as if they were given soiling crops or turned to new and fresh pastures. All this is done without any material increase in cost.

There is no question that beef cattle relish silage just as well as dairy cattle do, and the Kansas Experiment Station reports that steers fed on a ration of silage made better gain and excelled those that were not so fed when they were placed on the block. Another station reports more rapid and cheaper gain made on grain and silage than on grain and hay or grain and roots.

There is at least one farmer in Kansas who believes in the silo as a beef producer and he has erected and is using two large silos on his beef feeding farm. While the results of his feeding are not immediately available we have it from another source that cattle receiving silage as their sole roughness in winter made larger average gains; did not shrink when turned on grass in the spring, and slaughtered out to better advantage than dry fed cattle, and that they remained thriftier and in better condition throughout the entire feeding period. Experiment stations all over the country have shown that silage can be used as a profitable element in a beef producing ration, and facts gathered together seem to indicate that it may be profitably fed to stockers that are to be finished on grass. Larger returns can be gotten from feeding silage to cattle than from grazing them because an acre of corn yielding eight tons of silage will keep four cows 180 days while an acre of pasture will keep only one cow that long.

In feeding value silage compares favorably with other crops although this will vary with the kind of stock and the grain rations with which it is used. The Kansas Station obtained a value of \$5.65 per ton for silage used in fattening cattle. As corn will produce in an average year and on average land about 10 tons per acre this would show a yield of \$56 per acre for corn when grown for silage, and would be equivalent to about \$112 bushels per acre of yield when harvested in the usual way.

There does not seem to be any question about the value of ensilage for beef production when it is fed as a part of a balanced ration, and there do seem to be many advantages in harvesting and storing the corn crop in the silo. Silage can be used as a feed for sheep as well and the results are reported excellent. It has been fed to horses, though there seems to be no agreement as to its value for this purpose. It is not a valuable feed for fattening swine as it is too bulky, but for growing animals and for brood sows small quantities are undoubtedly beneficial. Poultry will eat it greedily and it is said to be an excellent egg producing food.

As an accessory to dry farming the silo has a most useful and valuable future.

## Practical Pig Pen Points

Kansas possesses the climate, the soil, and the brains to raise the best, the most perfect and the most profitable hog in the world.

Every Kansas hog should have his ration of alfalfa every day of his life. Cholera usually affects the younger pigs and hogs first.

At present prices, it will pay well to have as many houses as there are sizes of pigs in the herd.

A hog needs twice the air space in proportion to his size than does the horse or the cow, yet he cannot stand one-half of the exposure to the wind and weather.

If the hogs are dying and the cause cannot be found, have an expert hold a post mortem.

Frozen alfalfa may kill a hog as well as a cow or horse. It is usually indigestible.

A hog cannot sleep comfortably in a draft of wind, he will catch cold very easily.

A cough in a hog means an irritation in the throat or lungs and may lead to serious results.

Pneumonia kills many pigs before the herd gets used to sleeping in damp pens or drafts.

If a hog misses a feed, watch him; if he misses the second feed, remove him from the herd and thoroughly disinfect where he has been.

Whether the herd is sick or healthy, air slaked lime scattered in the pens and houses will pay well for the trouble.

Thumps—a spasmodic action of the diaphragm caused from over stimulation, too much dust, too much heat, too many worms, too much anything.

A cough in a hog can usually be traced to one of three things: dust, worms or cold.

There are many troubles of swine that are called hog cholera which have very little resemblance to that disease.

There is only one way of positively diagnosing hog cholera and that is by a post mortem examination.

There are hog raisers and feeders who keep hoping against hope that the deaths in their herds are due to

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other troubles when in reality it is cholera.

If a hog dies and there is another in the same herd acting as though the dead one was his most intimate friend, cut the dead one open and examine thoroughly. If there are any red spots upon either the lungs, kidneys or bowels, or if the spleen is enlarged or if there are any ulcers in the intestines, or if the skin of the abdomen is colored red or purple, it probably died of cholera.

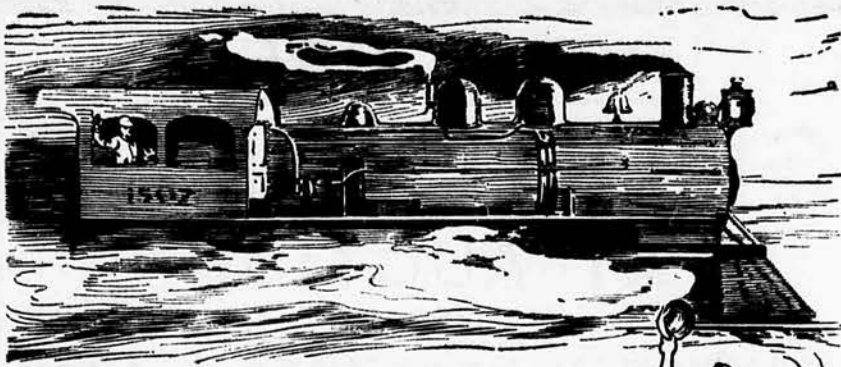
There are two forms of hog cholera, the acute and the chronic. The acute form kills very rapidly, the hogs "die like flies." In the chronic form the animals linger along for several days or weeks before they

either die or get well. In the acute form, in the post mortem, look for red spots on the internal organs, or red skin. In the chronic form look for ulcers in the intestines.

If cholera strikes a herd, there is but one thing to do; vaccinate every live hog in the herd and do it quick.

The daily papers announce that quail are plentiful this fall and report upon the large bags brought in by sportsmen. Do they ever stop to think that there is not one foot of ground in the broad state of Kansas where a "sportsman" can legally shoot a quail except upon his own premises or by the written permission of the owner?





## They Use the Same Watch

The wonderful new railroad watch—a "South Bend" Watch—called "The Studebaker," is such a marvelous time-keeper that thousands of people not connected in any way with railroads are buying it for personal use.

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A "Studebaker" stays in the factory sometimes a year—longer than it takes to build a great skyscraper office build-

ing—but when it comes out it is a great watch.

But to make it, or any good watch, keep perfect time you must have an expert retail jeweler adjust it to your personality, for good watches run differently for different people.

Some people lean over a great deal in their work. Others jolt over rough roads in heavy wagons, etc. All these things affect a good watch.

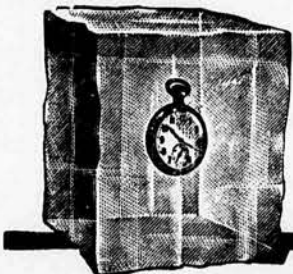
Any jeweler who sells the "South Bend" Watch can regulate your watch to keep perfect time, for he can provide for those conditions in the regulation.

This is why you ought to buy your watch from a retail jeweler and never by mail.



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Peach trees like potash. A tree growing in the rear of the kitchen got the soap suds for many years. It made twice the growth of the peach trees in the orchard, although these grew in naturally better soil and had good cultivation and fertilization. The soap sud tree never had an "off" peach year.

A flavoring used the same as lemon or vanilla. By dissolving granulated sugar in water and adding Mapleine, a delicious syrup is made, and a syrup better than maple. Mapleine is sold by grocers. If not, send 35c for 2 oz. bottle and recipe book. Crescent Mfg. Co., Seattle, Wash.

# THE FARM



Sun is a fine thing for hogs and chickens; but it isn't good for grindstones. Its rays harden the part of the stone on which they shine and thus make the stone wear unevenly. If the grindstone is not under a shed, or if the sun strikes it, make a box cap for it—20 minutes' work.

We are deeply interested in "conservation of fertility." We have repeatedly denounced the selling of the legume crops from the land, and urged the reading of the excellent farm periodicals like your splendid paper. Your college professor must realize that a ton of corn sold does not contain as much soil fertility as a ton of alfalfa hay. Once start the ordinary farmer selling his alfalfa rather than his corn and he will twice as quickly rob his soil of its richness. Certainly his alfalfa makes the "cream" of the soil rise to the surface; but, the thicker the cream, the thinner the "skim." Earnest consideration will show this argument sound. I do not write in the spirit of dispute. The hay barn is mightier than the corn crib.—J. Ed. C. Fisher, Beatrice, Neb.

### Increased Yield from Corn Crossing.

Experiments by the various experiment stations have shown that the yield from crosses of two varieties or strains of corn is in almost every case materially larger than that of the parents. It has been pointed out in bulletins already published that this method of increasing the yield can be utilized in farm practice by the simple expedient of placing the strains or varieties that are to be crossed in alternation and then removing the tassels from all of the plants of one of the varieties. All the seed produced by the plants of the detasseled rows will be cross-pollinated and can be used for the planting of the general crop in the next season.

### Barren Stalks May Be Valuable.

It has been found necessary by the Department of Agriculture to issue a word of warning against the danger of too close breeding in corn and to show that the practice of attempting to remove the "barren" stalks from corn fields before the pollen is shed is of altogether doubtful value, though often recommended by writers on the breeding of corn. Studies of primitive varieties of corn show that the production of pollen naturally precedes the silking and is in the nature of an adaptive specialization that protects the plants from self-fertilization. Plants with the stalks still "barren" when the tassels mature often show themselves very prolific before the end of the season. The elimination of such stalks should be confined to localities with very short seasons. The removal of plants that produce their pollen early increases the percentage of self-pollinated grain and tends to prevent the increase of the yield by cross-pollination. The Department advises the cutting out of weak or unproductive plants rather than those that produce the pollen in advance of the silks.

### Soil Teaching.

Dr. Cyril G. Hopkins of the University of Illinois in his address before the City Club of Chicago, made the following plain criticism of the Federal Bureau of Soils, based upon his eight years' soil investigation in Illinois, and the soil history of the United States and the world: Most lands once cultivated in the original thirteen states are now agriculturally abandoned. Much land in adjoining states is being abandoned and the common lands in central United States are being the most rapidly depleted of any in the world.

In America the art of agriculture consists in working the land for all that is in it—in working out of the soil by every expedient known to man the fertility which it contains. Even to this day almost every effort put forth by the American farmer has

resulted in decreasing the fertility of the soil. Tile drainage, more thorough tillage, better seed, rotation of crops and the ordinary acidulated commercial fertilizers which serve primarily as soil stimulants, produce larger crops that remove the plant food from the soil all the faster.

Live stock destroy from 80 to 90 per cent of the food value of the grain they consume. The food value of a bushel of grain is five to ten times as great as the food value of the meat or milk that can be produced by feeding the grain to live stock. We eat meat if we can afford it; if not we boycott it. Bread is the staff of life. Grain is sold and must be sold from the farm; and the productive power of the land must be maintained in grain farming as well as in live stock farming, or poverty is the only future for this country. There are six essential positive factors in crop production: The seed, the soil, heat, light, moisture and plant food. The first five of these factors are commonly provided in abundance or perfection; but the sixth essential factor, that of plant food, is ignored, misunderstood or neglected by such men as James J. Hill and by our own Federal Bureau of Soils.

There are ten essential elements of plant food. Five of these are provided by nature in abundance, namely: carbon and oxygen, secured by the growing plant directly from the air; hydrogen, from water absorbed by the earth; iron and sulphur, supplied by the soil.

The remaining five elements are nitrogen, phosphorus, potassium, magnesium, and calcium. The supply and liberation of these five constitute the foundation of permanent agriculture on all cultivatable soils in humid sections. Nitrogen exists in the air in absolutely inexhaustible amount, and for general farming can be secured from the air most economically by the growing of legume crops, and if these crops are plowed under nitrogen is thus increased and additional organic matter supplied which as it decays in the soil helps to liberate or make available the other four important elements. Much of our depleted lands remain unproductive because of the practical exhaustion of the soil supply of nitrogen and organic matter.

Phosphorus is in a class by itself because the normal soil contains so little and the staple crops require so much that the yields of all crops including legumes are commonly limited because the amount of phosphorus that can be liberated from the meager supply in the soil is inadequate to meet the needs of large crops. Yet this is the element of which we permit the annual exportation of more than twice the quantity required for the total wheat crop of the United States. All good soils contain very abundant supplies of potassium, magnesium and calcium. But limestone has a value for correcting soil acidity aside from the calcium which it contains. Some abnormal soils, as the peaty swamp land, are extremely deficient in potassium and require the addition of that element.

If the members of the city clubs and the chambers of commerce of the United States would devote an hour a day for a month to the study of this most fundamental question you would soon repudiate and revoke the abominably false teaching of the Federal Bureau of Soils, to the effect that "practically all soils contain sufficient plant food for good crop yields;" that "this supply will be indefinitely maintained;" that "the nation possesses ample resources in its soil for any conceivable increase in population;" that "the soil is the one resource that cannot be exhausted; that cannot be used up;" that "the soil is safe as a means of feeding mankind for untold ages yet to come."

Can you blame the farmers for continuing to wear out their lands when these are the widely promulgated



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teachings from the position of highest authority in this country? And this false teaching is the more to be condemned because the most common soil type on the abandoned farm lands of southern Maryland near the city of Washington is found to contain only 160 pounds of phosphorus and 1,000 pounds of calcium in the plowed soil of an acre, while the richest black prairie soil of Illinois with a value exceeding \$200 an acre, contains in the same stratum, more than 2,000 pounds of phosphorus and 40,000 of calcium.

But even in Illinois our older soils are showing unmistakable signs of depletion, and the addition of mineral plant food is producing marked and profitable improvement, not only on the University experiment fields which are being conducted in various parts of the state, but also on the fields of the more progressive farmers who are already using, not the common commercial fertilizers, but thousands of tons of bone meal, fine ground natural phosphate and limestone in connection with legume crops or farm manure.

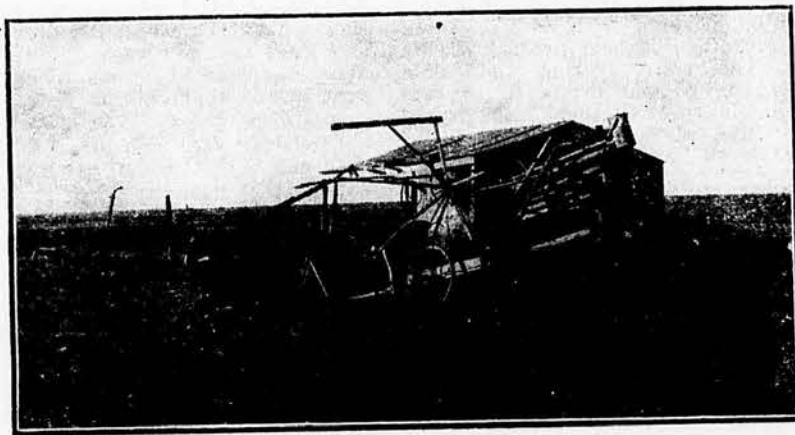
Thus as an average of the last six years the application of phosphorus and limestone has increased the yield of corn on the Urbana field from 64 to 87 bushels per acre, and the yield of wheat on the Odin field in the

heart of "Egypt" from 16 bushels to 27 bushels per acre. On the Galeburg field, in western Illinois, the use of raw phosphate has more than paid its cost, and left the soil 25 per cent richer in phosphorus at the end of six years. On the Antioch experiment field in Lake county, the use of phosphorus produced five bushels more corn in 1902 and 15 bushels in 1903; no increase in oats in 1904, but 25 bushels of wheat in 1905; while the increase was 26 bushels of corn in 1906 and four bushels in 1907. In 1908 the increase was 9 bushels of oats, and in 1909 it was 12 bushels of wheat. These are the increases in yield per acre produced by phosphorus in the commonest type of soil in Lake county, which contains in the plowed soil of an acre only 800 pounds of phosphorus, but 47,600 pounds of potassium; while 50 bushels of wheat removed from the farm 12 pounds of phosphorus and only 13 pounds of potassium.

These are only samples of a thousand proofs easily available to any man or woman of moderate education, showing the possibilities and the importance of applying science to agriculture; and yet the people of prominence and influence in the affairs of life are, as a rule, densely ignorant concerning these most fundamental questions.

## The Care of Farm Machinery Pays

Continued From Page One



A roofless shed which does not protect, and implements lose half their value by exposure to the weather.

effected at once and the profits correspondingly increased. There is no part of farm operations in which a little time can be spent to a better advantage than caring for the machinery.

When the farmer leaves his machines out in the field where they were last used he not only injures himself financially but he helps the implement dealer. While he has no objection to the dealer making a legitimate livelihood there does not seem to be any good reason why the farmer should boom another man's business at the expense of his own. When he puts his machines in the way of deterioration he puts himself in the way of saving up money with which to replace them.

American machines are the best that are made on earth today. The great implement companies have put more brains and more money into their business than is to be found in almost any other. They manufacture their machines for the purpose of selling to the up to date farmer who needs them. Farming methods and conditions are such that farm operations can not be conducted at a profit

without the aid of these implements. Each year sees new and improved implements placed on the market and even if the farmer does not care to preserve his machines for long periods it is a matter of economy to have them in good working order while they are in use. This can only be insured by the methods suggested.

The dealer is interested in the operation of his machine on the farm because if it works well it advertises the quality of the machine. He is anxious that the farmer shall get good results and will lend every aid in showing him how. A well cared for machine is the only kind that can produce good results and the farmer is unfair to himself, to the dealer and to the machine, who tries to secure the best results with the aid of an uncared for farm implement.

The great problem facing the American farmer today is conservation. Conservation includes economy in production. Economy in production means the use of high class machinery in a high class manner, and this can only be accomplished by proper care of the machine when once it comes into his possession.

## The Nitrogen and Humus Problems in Dry Land Farming.

A knowledge of the effect of dry land farming upon the nitrogen and humus content of the soil is necessary before a permanent system of dry land farming can be established.

Almost coincident with the development of scientific dry land farming, the detrimental effect of such a system on the nitrogen and humus content of the cultivated soil suggested itself to the careful student of the subject. The history of scientific agriculture taught that the cropping of land to the same crop caused a decrease in the nitrogen and humus content of the cultivated soil. It also taught that summer-fallowing was even more destructive to these im-

portant constituents than was continuous cropping itself.

The importance of nitrogen in crop production and the preponderance of evidence regarding the destruction of organic matter and the resulting loss of nitrogen by practicing a system of crop production involving the use of the summer-fallow, have caused thoughtful students of the subject to suggest means of returning the organic matter and the nitrogen to the soil. For this purpose, the growing of legumes during the season when the land is not occupied by the wheat have been suggested, but this practice defeats the purpose of the summer-fallow, inasmuch as the limited supply of moisture is called upon to grow the legume.

In view of the known action of con-

tinuous cropping and summer-fallowing upon the nitrogen and humus of humid soils, a knowledge of the effect of dry-farming upon the nitrogen and humus of dry-land soils became of exceedingly great importance. With this idea in view the author, in the summer of 1907, had a survey made of the dry-farming area in Cache valley, the oldest dry-farming district in the state of Utah, and the conclusions reached were as follows:

1. The cropping of dry-farming land in Cache valley to wheat, either by the summer-fallowing method or by continuous cropping, does not decrease the nitrogen or humus of the surface foot of soil.
2. The second foot of grain-cropped land contains less nitrogen and humus than does the second foot of the adjacent virgin soil.
3. The observed phenomenon in case of the grain-cropped land is probably due to the addition of nitrogen to the surface foot from lower depth and the addition of the humus from the added straw.
4. The work indicated that in a study of the nitrogen and humus problem in dry-land farming attention must be paid to greater depth of soil than the traditional plowed surface.—Dr. Robert Stewart, before the Dry Farming Congress.

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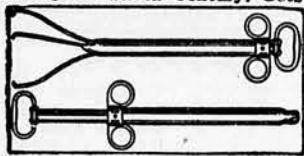
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# HORTICULTURE



### Wait Until Spring to Plant Your Trees.

There is a wonderful revival of tree planting in western Kansas this year and the old question of spring or fall planting is a subject of discussion at almost every farmers' institute when tree planting is mentioned. Fall planting may be practical in the eastern part of the state or any other region of great humidity, but it is not a safe proposition in the western half of the state. Winter killing of newly planted tree is due to the drying out of the stems. This may result from alternate thawing and freezing that is common during periods of bright, sunny weather, or the trees may be killed by a day or two of dry, windy weather any time before the roots have an opportunity to make any growth or gather food for the nourishment of the stem.

In case trees have been ordered for fall delivery they can be held over winter without injury if they are properly heeled in. To do this a trench should be dug deep enough to receive the roots; one side of the trench should be sloping and the trees should be placed with their stems resting evenly on the sloping edge, the roots, tops and all should then be covered with enough fresh earth to insure them against drying out. The soil covering the roots should be packed firmly to exclude the air and prevent them from drying out.—Chas. A. Scott.

### Methods of Protecting Trees Against Rabbits.

Rabbits, no doubt, destroy more newly planted trees than any other single cause with which the tree planter has to contend. In the western part of the state the jack rabbits are especially destructive and it is beyond reason to expect newly planted fruit or forest trees to survive their attacks unless well protected.

Perhaps the simplest and cheapest method is that of wrapping the stem of each tree with a strip of building paper. This costs but little and is easily and quickly applied. Before going to the field the paper should be cut in strips wide enough to insure two wraps of the stem. To hold the paper securely in place it should be tied in at least two places with good strong cord. Any of the ordinary building papers will withstand the exposure throughout an entire winter and the following summer it will gradually break down and disappear without having to be taken off. The cord will lose its strength and break under pressure of the tree as the latter increases in diameter. The cord has this advantage over a wire tie. Unless the wire is removed, in time it cuts and injures the tree very seriously.

To protect the tree against early attacks they should be wrapped at once. If this work is delayed until later in the season, as is often the case, many of the trees will be girdled that might well be saved by earlier wrapping.—Chas. A. Scott.

### Forest Trees for Western Kansas Planting

The list of forest trees that are suitable for planting in western Kansas is not a very long one, but it contains a sufficient number to permit a very good selection. In selecting a tree for planting in this region the

first consideration is hardiness. It is a waste of time and money to plant trees that are not able to withstand the severest drouths and the coldest weather known to the region. Hundreds of thousands of trees were planted in the western counties of this state during the life of the Timber Culture Act, from 1873 to 1891, commonly spoken of as the Timber Claim Plantings. Although these plantings have to a large extent been failures in accomplishing the intended results, they have served well the purpose of testing the hardiness of the species planted. It is a fact that practically every species of native forest trees have been planted on the timber claims, the surviving trees are the ones that have stood the test and are worthy of further consideration. They are the honey locust, Osage orange (hedge), green ash, cottonwood, white elm, black walnut, red cedar, Scotch and Austrian pine.

The honey locust and Osage orange trees have been planted extensively and are suitable for a wider range of soil conditions than any of the others except the red cedar. They will grow on almost any of the soils in the western part of the state. They make excellent fence post timber and they should be planted quite extensively for that purpose. Under favorable conditions they will reach fence post size in about twenty years.

The elm and ash are better adapted for yard and street planting than any of the others. The elm is a particularly good tree for this purpose; it is pleasing in appearance and altogether hardy.

The red cedar and the Scotch and Austrian pines are among the best known evergreens for ornamental and windbreak plantings, as they hold their leaves throughout the year and provide a wonderful protection against the winds. These species are perfectly hardy and they will grow in almost any soil.

The cottonwood and black walnut make a very satisfactory tree if planted in favorable locations. They must have good soil and a considerable amount of moisture in order to succeed and should therefore be planted only on low ground that gets the benefit of flood waters at times of heavy rains.

Under the general name of cottonwood the several species of poplars are included. These are the fastest growers of any of our native trees and they will reach merchantable size in about thirty years. The walnut is a tree that is very pleasing in appearance and it should be planted for the sake of variety and for the production of nuts. The trees come into bearing when about twelve or fifteen years of age. The success of this tree, when planted in favorable locations, in the western part of the state is demonstrated by the trees found in almost every county that are bearing nuts this year.—Chas. A. Scott, State Forester Kansas State Agricultural College, Manhattan.

The National Apple Show will be held this year at Chicago. It will be located in the First Regiment Armory, corner of 16th and Michigan Avenue, and will open its doors on November 28 and close on December 4. As this great show will be held during the same period as the International Live Stock Exposition there will be an added pleasure in visiting Chicago this year.

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It is an open book. I was raised on an Iowa farm. My people bought farm implements the same as other farmers.

They paid the long prices the same as other farmers paid. While using these implements I got to wondering what they actually cost to make, and when I left the farm I started work for an Implement Manufacturer who sold through agents and dealers.

I found out their tremendous manufacturing profits, and the expenses of brokers—jobbers, traveling salesmen, etc., which they put into their high prices—all paid out of the Farmers' Pockets.

Then I went into the manufacturing business myself. They didn't see how I could do it—with my small means and a family to take care of.

But I knew that the Farmers would be with me if I gave them high quality and square deal—sold direct, and gave them the savings on my wholesale factory prices.

And you never saw me starting to make any machine except what the Dealers and Manufacturers get the long price for.

And you never will. Here's my Galloway Line, and you'll find that my prices save you from \$25 to \$500 on any Galloway machine, according to what you want, from the smallest capacity to the largest.

Manure Spreaders—Gasoline Engines—Cream Separators, etc.—(and watch out for my Automobile Announcement before long.)

I want YOU YOURSELF to know my "See It Work" Plan.

I'll give you every chance—with NO RISK TO YOU. Whose pocket shall the money jingle in—yours or the dealer's?

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### KANSAS FARMER, A TEXT BOOK IN THE STATE AGRICULTURAL COLLEGE

EDITOR KANSAS FARMER:—I take this opportunity to tell you how much I value the KANSAS FARMER and how important it is in the work I am trying to do in the new department of Industrial Journalism at the Agricultural College. A carefully edited and intelligently prepared paper like the KANSAS FARMER is more helpful than I can tell you in teaching students industrial journalism. It is in fact a text book, because from the KANSAS FARMER I take suggestions for assignments to young men who are to write the farm literature of the future.

CHARLES DILLON,  
Professor Industrial Journalism, Kansas Agricultural College.



# DAIRY



The best dairy herds are the result of long, careful selection and breeding.

Hay that has been cut right and cured and put up quickly retains much more of its nutritive value than would be the case if it had been allowed to cure on the stem, besides it does not lose so many leaves and has a greater bulk. No feed is too good for the dairy cow.

Alfalfa is making good in the states east of the Mississippi and the farmers find that it is not so difficult to raise after all. Many of them have to use lime and abundant stable manure in order to do this but this pays better than shipping it in and they must have alfalfa.

Cabbage is an excellent cow feed and if properly handled will not taint the milk or butter. Fed on pasture or immediately after milking it gives no flavor or taint. It can be fed several hours before milking with no bad results. It should not be stored in the barn or milking quarters and should not be fed until after the milk has been removed from the barn. It has a protein value above most vegetables and is a profitable dairy feed when rightly handled.

For the first time the Columbian cattle were shown at the New York State Fair this year. This is a new dairy breed which originated in Otsego Co., N. Y., about 30 years ago. It was founded by selecting the best cow in the herd of the owner and breeding her to a line back bull who was the son of the best cow in a neighbor's herd. Constant selection for 30 years have served to fix the breed character and the breed is now established, all line backs. The largest herd is now on the farm of the founder of the breed, who is said to have many animals which produce more than 500 pounds of butter per year each. This new breed is said to be characterized by strong constitutions with great vitality and feeding capacity and free milkers.

Any one who sees and thinks nowadays cannot avoid the conclusion that dairying in the middle west is on the verge of a marvelous expansion. Indeed, it has already grown to astonishing proportions, although the field is barely touched. With the wonderful growth of our western cities, and the enormous increase in our industrial population, the demand for concentrated, staple food products like bacon, ham, eggs, butter, cream and milk has developed a hunger that will keep these products at a high level of prices for many years to come. At present the supply is far below the requirements if we were to figure on the basis of a small margin of profits; high prices are economically logical, and they are destined to remain so for years.—L. E. Frost.

## A Tribute to the Jersey.

Velancey E. Fuller, editor of Practical Dairyman, pays the following tribute to the Jersey cow:

"The charge has been laid at my door that because I admire and appreciate a dairy cow, no matter of what breed, that I have ceased to love the Jersey. Nothing could be further from the truth. I admire and love her. I believe there is no cow so perfect in type, so beautiful in udder, having the same tenacity in milk, who can average so high a percentage of fat and who will make as economical a yield of a hundred pounds of butter-fat as the Jersey cow. She breeds true to type as no other breed except the Ayrshire does. She responds to good care and requires it. Her globules of fat being large, the grain of her butter cannot be excelled. Her butter remains firmer in heat than that of any other breed, her milk creams readily and there is a perfect separation between cream and milk. As a butter maker she is preeminent and in her symmetry of form and beauty she is the aristocrat of the dairy world."

## Short Course in Milk and Cream Testing at the Kansas State Agricultural College.

We have received a number of requests for instruction in milk and cream testing, during the past few weeks, and to meet this demand, are offering a four-days' short course in this subject at the Agricultural College. This course will be given December 13 to 16.

Because of limited space in the laboratories, the number taking the course will be limited to 25. The first 25 to register will be entered and if this does not accommodate every one who wishes to take this work, the course will be repeated the following week.

A laboratory and registration fee of \$1 will be charged for this course. This fee should accompany the request for registration in the course.

For further information regarding this course, address dairy department Kansas State Agricultural College, Manhattan, Kan.—Prof. O. E. Reed.

## A Source of Flavors in Milk.

The effects of poor ventilation in cow stables upon the development of flavors in milk is not always well understood by milk producers. As a rule if the animal is in proper health the milk will be normally pure when first drawn. But if the cow is milked in an unclean stable which is filled with vitiated air the milk will be contaminated and undesirable flavors rapidly develop, writes G. L. Martin in the Guide.

In an endeavor to determine the relation between poorly ventilated cow stables and the development of bad flavors in milk, the writer made extensive investigations with quite definite results. The plan of the experiment was to obtain samples of milk from cows kept in well ventilated dairy barns and from cows kept and handled by methods commonly found in barns where no system of ventilation was provided. These samples were collected in the stables as the cows were milked, put into sterilized glass jars and kept for several days in surroundings where no further contamination was possible. Each sample was examined regularly every twelve hours with the following results which are an average of the findings from several hundred samples:

	Well Ventilated.	Poorly Ventilated.
Clean natural sour flavor...	93 per cent	38 per cent
Stale flavors...	— per cent	45 per cent
Stale musty flavors...	— per cent	17 per cent
Slightly ensilage flavors...	7 per cent	— per cent

It will be noted that only 38 per cent of the milk from the poorly ventilated stables gave a clean flavor and that 62 per cent of the milk showed a most filthy contamination. If the cows are kept and milked in unsanitary surroundings, the milk will absorb the stable odors before it can be removed to the milk room as these results plainly indicate.

The presence of an ensilage flavor was detected in a few samples from the well ventilated barns; however, this flavor passed off within a short time leaving no objectionable effects.

In case of the poorly ventilated stables if any such flavor was present it was entirely covered up by the very objectionable stale flavors. In every case where stale flavors were detected, it was a noticeable fact that they increased with the age of the milk. This was due to the fact that such flavors are produced from the rapid development of the undesirable bacteria.

These results only emphasize the vital necessity of having pure air in cow stables and in abundance. All that is required is to have the stables properly ventilated, which can be done with very little expense. Fresh, pure air is an absolute necessity both from the standpoint of health of the animals and the production of pure, clean and wholesome milk.

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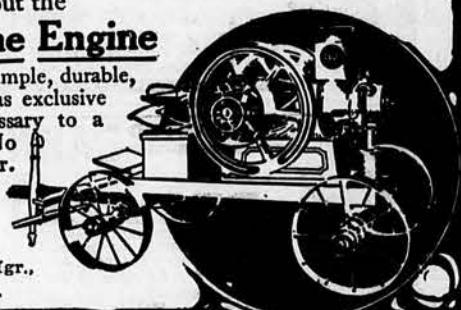
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Douglas county and all eastern Kansas has been having a long dry spell, yet the wheat seems not to suffer, as far as my observations go. It has made a good time to do all fall work, and all the fall fruits have been well gathered, sold at fair prices, and the supply now in sight is not large. Ground is too dry for good plowing, but fall plowing is a good thing for most all spring crops, tame pastures furnish good feed yet, and stock is in good condition.—A. H. Griesa, Lawrence, Kan.






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### Hog Feeding Problem.

(Continued from page 4.)

that 100 pounds of gain has been produced by an expenditure of 456 pounds of feed. The percentage of tankage used in these various experiments has ranged from 5 to 10 per cent. In some of these experiments shorts formed from 25 to 30 per cent of the ration. The gains were made at the very lowest cost from the standpoint of feed required where the shorts was used in combination with corn and meat meal or tankage. To put it on a financial basis, the average of experiments with meat meal or tankage as a supplement represent a cost per hundred pounds of increase of about 415 pounds of corn and 35 pounds of tankage. At 40 cents per bushel for corn and \$2.25 for the tankage, this represents a cost of \$3.68 per hundred pounds of increase.

In the case where alfalfa hay was used with a corn ration the 600 pounds of corn and the 100 pounds of alfalfa required on an average for a hundred pounds of gain represent a cost of \$4.68. The same prices for corn and tankage were used in this calculation as before, and alfalfa at \$8 per ton. I would not consider, from the results of our experiments given above, that corn and alfalfa hay would be the most profitable way to finish these hogs. The alfalfa has a very valuable part to play in reducing the cost of pork production, but its place comes earlier in the life of the pig in connection with the maintenance of the brood sow and the growing out of the litter. When it comes to finishing for market, alfalfa hay is not sufficiently concentrated to supply large enough amounts of proteid material to properly balance a corn ration.

I would sell off the hay and purchase meat meal and, if shorts can be purchased at prices not to exceed \$1 per hundred, I would use some shorts in the ration. If shorts is used, it could be mixed with the tankage in the proportion of 20 or 25 pounds of shorts to 5 of tankage. Feed this to the hogs at the rate of about 3 pounds daily per pig and give them all the ear corn or shelled corn they will consume in addition. You will find this will give rapid gains and gains which will be more economically produced than to use corn alone with alfalfa hay. Fed in this way these shoats should put on a hundred pounds of increase for about 530 bushels of corn fed, or, if the shorts is introduced, a hundred or 125 bushels less of corn, the shorts taking its place.—G. C. Wheeler, Professor Farm Management, K. S. A. C.

It requires pretty skilful mismanagement to lose money in hog raising.

### The Southwest Fair Association.

Secretaries of state fairs whose interests would be better served by an early arrangement of dates recently met in Kansas City and organized the Southwest Fair Association. Among the important items of business that were transacted was the fixing of the following state fair dates:

August 28 to September 1, Iowa State Fair, Des Moines.  
September 4 to 8th, Nebraska State Fair, Lincoln,  
September 18 to 23, Kansas State Fair, Topeka.  
September 18 to 22, Kansas State Fair, Hutchinson.  
September 25 to 29, Interstate Live Stock Show, St. Joseph.

October 2 to 6, Missouri State Fair, Sedalia, and Oklahoma State Fair, Oklahoma City.

October 9 to 13, American Royal Live Stock Show, Kansas City.

This arrangement of dates gives the exhibitors seven continuous weeks of showing, converging in the American Royal Live Stock Show. Horse shows will be held in connection with these shows and large prizes will be offered, which will attract the finest stables in the country. The organization will encourage the breeding of pure bred roadsters and saddle horses. The Southwest Fair Association represents the strongest organization of live stock shows in the country. Chicago is the next meeting place. The organization will convene there November 28, 1910.

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# EMPIRE BUILDERS

By FRANCIS LYNDE



"BECAUSE THE WOMAN  
DOESN'T LIVE WHO  
WOULD BE WORTH  
SUCH A SACRIFICE."

## SYNOPSIS OF PRECEDING CHAPTERS.

Stuart Ford, an enthusiastic young man and superintendent of the Plug Mountain branch of the Pacific Southwestern Railway, and Jack Frisbie, a constructing engineer, determine to make the road a paying proposition, which it has never been since boom days. Ford has strong opposition in the person of General Manager North, who has taken a personal dislike to him. Ford made a trip to New York to place his plans before the president of the road and board of directors. On the train he met a young lady whom he was able to assist by loaning her a small amount of money, after she had lost her purse through an accident. He did not, however, learn her name as the loan was returned in an unsigned note. Stuart Ford reached New York and was compelled to go to President Colbrith's residence for an interview. He did not receive much encouragement, but was granted the privilege of laying his proposition before the board of directors, at which time he made the acquaintance of Charles E. Adair, a nephew of President Colbrith. At this meeting he asked for 35 million dollars, but this was not granted, as his plans were considered too hazardous. He then left New York on his way back to Chicago, and receives word from Adair saying that he thinks the proposition is being reconsidered, and offering to stand by him in any event. President Colbrith then made the trip to Chicago, in his private car, accompanied by Mrs. Colbrith, Mr. Adair and Miss Alicia Adair. Ford discovers that Miss Adair is the lady whom he had previously met on the train.

Empire Builders.  
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## IX.

### THE RACE TO THE SLOW.

ADAIR's prophecy that President Colbrith would prove himself an obstructor of the stubbornest was amply fulfilled during the short interval which remained for decisive action. Truly, in the battle for business celerity the odds were three to one against Mr. Colbrith; yet the three were as those who buffet the wind. The president must see and feel,

know and fully understand; and at the very last moment, when the shortest of the options had no more than an hour to live, he was proposing to summon General Manager North from Denver to make a fifth in the council of discord.

It was Adair who took the bull by the horns when the president's caution was about to turn victory into defeat. What was said or done after the young man drew Mr. Colbrith into the private committee-room at the bank and shut the door, Ford and Kenneth, who were excluded, could only surmise. But whatever was done was well done. When the two, uncle and nephew, came out of the room of privacy, the old man was shaking his head and the young one was smiling serenely. So it came about that between eleven and twelve o'clock, when Ford, grimly battling to the last, fought as one without hope, a few strokes of the pen opened the doors upon the new creation; five million dollars, more or less, changed hands, and the Pacific Southwestern took the long leap eastward from the Missouri River to its new base in Chicago.

"It's you for the hustle now, Ford," said Adair, linking arms with the engineer when the quartet left the bank. "How soon do you think you can get that first train-load of grain in transit?"

"I wish I could tell you," said Ford. "Why can't you?" "Because it will depend very largely upon the authority Mr. Colbrith or the board sees fit to give me. At present, you will remember, I am still only a division superintendent—Mr. North's subordinate, in fact, and—"

"Say it out loud," encouraged Adair. "I don't like to, but I suppose it can't be helped. Up to now I have been acting under special orders, as you may say, in a purely financial transaction. But my commission expired five minutes ago when the stock deal went through. When it comes to issuing orders in the operating and transportation department, I have no authority whatever. Mr. North is general manager, and I suppose his jurisdiction will now be extended to cover the new line, won't it?"

"Not much!" retorted the amateur promoter. "You are going to be given a free hand in this from the word go. From what I can learn, North has been an obstructor, all along, hasn't he?" "I can't say that," said Ford, just, even to an enemy. "To be right honest about it, I shall have to confess that I slurred him entirely—went over his head."

"For good reasons, no doubt, only you are too charitable to give them. Never mind; as I say, you are going to have a free hand. This is your pie and nobody else is going to cut it for you." And when the party reached the hotel there was another conference of two behind closed doors, in which Ford and the general counsel did not participate. An hour later, when Adair came down from the president's room, he thrust a sheaf of penciled printer's copy into Ford's hands.

"There you are," he said. "I've done the best I could for you on such short notice—with Uncle Sidney trying his level best to get a cross reference to the board before taking action. Get these circulars through a print shop and into the mails. You'll see that one of them announces your appointment, effective to-day, as Assistant to the President. That was as far as Uncle Sidney could be dragged. It doesn't give you a straight flush; but your hand will beat North's if it comes to a show-down between you. Just the same, I shouldn't quarrel with North, if I were you. Uncle Sidney thinks the sun rises and sets in him."

Ford nodded, and while he was reading hastily through the sheaf of pencillings a boy brought him a telegram. When he opened the envelope, Kenneth had turned away. But Adair was looking on, and he did not fail to remark the startling effect of the few type-written words upon the engineer.

"Whereabouts does it hit us this time?" he inquired, lighting a fresh cigarette.

"In the neck," said Ford curtly. "The possibility occurred to me yesterday—Pacific Southwestern stock being so badly scattered among small holders. I wired a broker, a good friend of mine, to pick up a few shares on my account. Here is what he says: 'Market bone dry. No offerings of P. S-W. at any price.'"

Adair whistled softly. "That's getting next to us with a vengeance!" he commented. "And it can be done, too. Half a dozen of the small stock-holders have been to me since the fire was lighted, trying to get me to take their stock at market."

"How much do we control—that we are sure of?" Ford asked.

"I don't know—in figures. Not more than two-fifths, I should say. At the last board meeting I proposed that we make a safe majority pool among ourselves, but Uncle Sidney sat on me. Said his own personal constituency among the little people was big enough amply to secure us."

Ford swore pathetically. "The one single instance when his caution might have steered him straight—and it went to sleep!" he raged.

"Exactly," laughed Adair. "And now the Transcontinental moguls are buying up a majority of their own, meaning to capture the main-line dog and leaving us to wag the extension tail which we have just acquired. Say, Ford; doesn't that appeal to your sense of humor?"

"No, it doesn't," said Ford, savagely. To see one's air-castles crumbling at the very moment when they were to be transmuted into solid realities is apt to provoke a reversion to type; and Ford's type was Gothic.

"That's a pity," said Adair, absently rolling his cigarette between his thumb and finger. "Also, it's another pity that I am such a hopeless quitter. I believe I could pull this thing out yet, if I could only get up sufficient steam."

"For heaven's sake, tell me what you burn, and I'll furnish the fuel," said Ford, desperately.

"Will you? I guess I need something pretty inflammatory."

"Lord of love! haven't you good and plenty, without calling upon me? Are you going to let these stock-jobbing land-pirates on 'Change gibbet you as a solemn warning to aspiring young promoters?"

Adair paused with the cigarette half way to his lips. "Ah," he said, after a thoughtful moment. "Perhaps that was what I needed. No; they will not gibbet any of us to-day; and possibly not to-morrow." Then, with a sudden dropping of the mask of easy-going indifference: "Give me the key to your room, and find me a swift stenographer. Then go over to the Lake Shore headquarters and ask to have the Nadia coupled to the evening train for New York."

"But the president?" Ford began. "Didn't he say something about going over these new lines on an inspection trip?"

"Never mind Uncle Sidney; on this one occasion he will change his plans and go back to New York with us," said Adair curtly.

"Good," said Ford approvingly. "And how about opening the new through line for business? Do we go on? Or do we hang it up until we find out where we are at?"

"Don't hold it up a single minute. Drive it for all the power you can get behind it. If we have to collide with things, let's do it with the throttle wide open. Now find me that shorthand person quickly, will you?"

By what means the president was persuaded or coerced into doing the thing he had not planned to do, Ford was not to know. But for that matter, after carrying out Adair's instructions

(Continued on page 17.)

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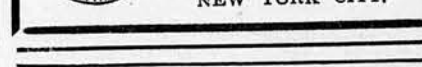
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TAKEN UP—One mare, white, some white spots on hip, weight 850 lbs.; valued at \$16. Was taken up Oct. 22, 1910, by Ruffin Fowler of Emporia, Emporia twp.

C. F. Yonkin, County Clerk—Barton County.  
TAKEN UP—One mule, female, 16 hands high, black, weight 1000 lbs.; mark on shoulder; also 1 mule, male, 16 hands high, black, weight 1000 lbs.; also 1 mule, male, 14 hands high, brown, weight 850 lbs. Were taken up October 10, 1910, by Lee Morgan, Heizer, Barton county, Kansas.

Geo. Throckmorton, Co. Clerk—Coffey Co.  
TAKEN UP—One steer, red, dehorned, notch in lower side of left ear; mottled face; valued at \$25. Was taken up on Nov. 5, 1910, by I. P. Saueressig, Ottumwa, Kan., Ottumwa twp.

Jasper Kincaid, County Clerk—Johnson Co.  
TAKEN UP—One cow, dark red, weighs 806 lbs.; dehorned; valued at \$20. Was taken up Oct. 26, 1910, by J. A. Lorimer of Morse.



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# HOME CIRCLE



To dry ribbons after they have been washed, wrap them evenly around a bottle and then fill the bottle with hot water. The ribbon will dry much quicker than if the bottle is cold.

It is said that pearl buttons which have become dull can be restored to their original luster in the following way: First rub them with a little olive oil and then cover them with nail powder and rub vigorously with chamois skin.

### School Time.

Comfort should be the fond parent's first thought in fitting out the children for school. Judging by the school lads and lassies we meet, not many mothers have learned the art of combining comfort, economy and neatness. Comfortable clothes are not made more so by being expensive in price and elaborate in design. To see that the children are always neat and clean, should be your highest desire.

If parents only knew how well the teacher appreciates clean and neat pupils, they would see that their children were always neatly dressed and clean.

The desire to wear neat and pretty clothes is inherent in most children, more or less. And it should not be condemned, but rather cultivated in the proper direction.

Elaborate clothes are decidedly out of place for school wear; yet shabby clothes are even more so. Let the school clothes be pretty and neat, yet plain and not too fussy to play in.

If it can possibly be afforded each child should have clothes sufficient to allow clean clothes for Monday morning and another complete change for Thursday morning. In making the girls' dresses, do not make them alike in either color, material, trimming or design. And by all means make them to fit; do not make them two or three sizes too large and expect the child to grow to them, as the dress will be worn out long before the girl grows to its size.

The girls should have a nice assortment of white handkerchiefs. They should have a clean one for each day.

Give the boys' school clothes some attention too; many boys are very particular as to their dress. They like to be very neatly attired at all times and neat, clean clothes should not be denied them, simply because they are boys.

A mother should see that each child washes his face before dressing for school each morning. It is correct that each one should bathe each morning, but this is impossible in most farm homes; but each child should bathe at least twice a week. Each girl should have her hair neatly combed and tied with hair-ribbon; the boys should also comb their hair. Always get the children ready for school in good time so they will always be punctual.

You should see that your children are supplied with all books required in all of their branches of study, and that they are always well furnished with pencils, slates, writing tablets, pens, etc.

Parents' duty to their children and district teachers is very important, and your children's education depends very much on the interest you take in the school.

Parents should take an interest in their children's studies and help them of evenings with their lessons.—F. Lincoln Fields.

### Plague-fighting in Bombay.

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Plague, as most people know, is the scourge of India. In Bombay City alone the disease has caused no fewer than one hundred and sixty-nine thousand and fifty-five deaths in fourteen years, the highest mortality being twenty thousand seven hundred and eighty-eight in 1903, and the lowest five thousand one hundred and

ninety-seven in 1909—a striking testimony to the efficacy of the rat-destroying campaign.

No fewer than four hundred and thirty-two thousand six hundred and fifty-eight rats were killed during last year, out of which ninety-one thousand-five hundred and forty were examined and nine thousand six hundred found to be infected with plague.

Loaves of bread are used for making the poison baits. Each loaf is cut into half-inch cubes, smeared over with the poison—which is prepared at the municipal laboratory—and then dipped in powdered sugar and flour. The cubes are all counted before distribution. The material used for baiting the traps consists of pieces of bread, fish, cocoa-nut, and other delicacies beloved of the vermin.

Something like seven thousand traps are in daily use, and all these are washed and disinfected before being distributed in the houses. It will thus be seen what a vast business this crusade against the rat has developed into. Between eighteen hundred and two thousand rats are collected daily—a truly remarkable "bag."

When washed, disinfected, and baited, the traps are taken from one of the Health Department stables to be distributed about the city. Poison baits are also laid in the passages between the houses. Next morning special men are told off to collect the harvest of rats. The system of trap-setting and collection is as follows: The area to be treated is marked out in sections and circles, a certain number of men being detailed for each. Each man has two or three hundred baits given to him, which he lays down between five and seven p. m.

Next morning, between the hours of six and eight, he goes round his area and picks up the baits not used, counting them, and returns them to the ward stables. All dead rats are also collected, and the number of the house, place and locality noted down upon a label attached to the rat, with the name of the collector. Each rat thus earmarked is put in a tin box and sent to the laboratory for scientific examination. The result of the examination is communicated to the office of the section in which the rat was found, and, if the creature is infected with plague, prompt action for the disinfection of the place where the rat was found is taken. The inmates of the house are asked to move out into a camp provided for them while the house is disinfected, and the locality is then treated again with poison baits and traps. All results are sent daily to the head office and tabulated.—Wide World Magazine.

### Home Building.

Some farmers catch the idea that when they buy a farm and erect the necessary farm building, they are home builders, that they have built a home. But that kind of home building that adds to the worth and also wealth of the country consists of more than simply buying the farm and erecting the buildings.

In home building we must first erect a structure by our own efforts; and in the building of it we must first lay a solid foundation.

Home is the foundation, character is the superstructure. Parents are the foundation of the home, and on father and mother falls the obligation of moulding the future generation into a strong, self-reliant, intelligent people. And the moulding of the character of the future generation must be done by the united efforts of both father and mother, divided efforts will accomplish almost nothing.

Always and always the character and intelligence of children depend largely upon the quality of the parents and the home training. If parents live honest lives and train their children in the way they should live, the children will also become honest men and women. Parental examples and training invariably reproduce themselves in the lives of children. Parental obligation is one of

solemn and momentous character, one of important mission.

By parental examples the foundation of lasting character is to be laid, and a palace of purity built in the hearts of the children.

The amount of love a father and mother can bestow upon each other and upon their children cannot be limited nor hindered by anyone, nor should it be less simply because you live on the farm.

As you stood side by side at the marriage altar in full agreement of the marriage vow, so should you stand side by side in full agreement in the training of your children. The training a child receives at home goes with him to the end of his life. To him the reckless memory of lax home training; the bitter memory of rigid discipline; or the hallowed memory of wise and tender training remain with him, an influence and an example to the close of his life.

This important mission, this duty of parental care and solicitude, parents should perform so efficiently that the future generation may become men and women of strong character and intelligence.

The most conclusive evidence of the farmer's worth as a citizen is not only read from the farm crop and stock he produces, but from the management of his individual domestic affairs, and the quality of the future crop of men and women.

In the child lies the future generation, and each rural parent would do well to teach them in childhood to live obedient to the laws of nature each day, in regard to care of the body, food, drink, sleep and thoughts.

Let the majority of the future generation have proper nourishment and care, so necessary to early life; let the atmosphere and surroundings be pure and wholesome to foster pure childhood which leads to pure manhood and womanhood. The farmer cannot draw social lines too deep between the pure and the impure. The youth must have pure minded associates; their minds must be protected from contagion as well as their bodies; the mind can become diseased as well as the body.

Let the home not be a school of coarse folly, but of pure, chaste, quiet refinement.

The farmer cannot afford to rear his family amid idle luxury, pleasure and gayety, in the whirl of society. The future farmers must in their childhood enjoy in the home, love and wise and firm discipline and the luxuries necessary to happy home life. But let each child have that training which will fit him for a life of usefulness and service. Let each parent give their children the training that will cause the generation to come after them to rise up and call them honored.—F. Lincoln Fields.

### No. 1619. A Pretty Scarf Design.

For outline and buttonhole stitch this design will be found very effective.



ive. Stamped on linen it will cost 75 cents; perforated pattern costs 25 cents; the transfer pattern costs 10 cents.

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# POULTRY



Don't keep any fowls over winter that you do not actually need for layers or for breeding purposes next spring.

The dry system of feeding is growing in favor. It has been demonstrated that dry feeding increases the egg production, uniformity of growth and promotes general health. Even the wet mash is discarded for the dry mash.

It never pays to market fowls in poor condition, as such birds must always be sold at a price below the regular quotations. By spending a little money for feed and making the fowls fat, the expenditure for food will be returned and the profit will be larger.

Roup is apt to be prevalent at this time of the year. If you have sick fowls separate them from the healthy ones. Especially is this necessary in cases of roup. Do not let them drink from the same drinking vessel, as this is the principal cause of the spread of the disease. Fowls with roup will contaminate the water with the discharge from their nostrils, thereby spreading the disease among the whole flock.

Wheat is generally considered as the best grain for laying hens, but the old standby of corn is not to be sneezed at. Several tests between corn and wheat at the Massachusetts Station show eggs were produced at 25 to 35 per cent less cost, both in summer and winter, by rations consisting largely of corn and corn meal. Plymouth Rock pullets were used and showed rather more tendency to get too fat on the corn ration than on the wheat diet. Anybody who has fed chickens, knows that a hen prefers corn to all other grains. When a mixture of grains is thrown among the flock, the hens invariably pick out the corn first; whether this was because the kernels were larger than the other grains or because they liked it better was hard to determine, but when experiments demonstrate that corn produces better results than wheat, then corn should be declared the best food for them. To offset the fattening propensities of corn, some other less fattening grains should be fed. A variety also is apt to give the fowls a better appetite. But the bulk of the food should be corn, corn meal and Kafir corn.

The Seymour Packing Co., Topeka, is the largest packer of poultry and eggs in the state and do an immense business in these commodities. Their plant is large and commodious and up-to-date in every respect and their

business keeps increasing with rapid strides. In a talk with Mr. Geo. Bowman, one of the members and general manager of the firm, he bewailed the fact that farmers did not pay more attention to the fattening of their poultry before sending them to market. He said they were receiving these days, lots of fowls that weighed only 1½ to 2¼ pounds each after being dressed, and showed us barrels of small, scrawny chickens that could be sold only for "canners." These presumably were of the smaller breeds of chickens. On the other hand, we saw lots of nice, plump fowls weighing 6 to 8 pounds each, put up in the finest of condition. Mr. Bowman said that not only were the chickens smaller in size than formerly, but that eggs were diminishing in size considerably over what they were a few years ago. It takes now 600 cases of eggs to make the same bulk and weight that 400 cases used to do. He said his preference of breeds for market purposes were the White and Barred P. Rocks. It would pay poultry raisers to take heed of what such experts as Mr. Bowman say of the poultry situation and be governed accordingly. Two states, New York and Iowa, have already passed laws that eggs must be sold by weight. No one knows how soon such a law might prevail in Kansas, when eggs of large size would be at a premium. It behooves every raiser of poultry to try and increase the size of his fowls and the size of the eggs they lay, as well as to increase the number that are laid.

## The Care and Feeding of Laying Hens.

### III.

This subject is particularly appropriate at this time of the year as we may assume that the laying season starts in the fall. Of course there are people whose hens do not lay until early in the spring, but we will deal in this article with the subject of winter egg production. The writer will endeavor to point out a few reasons why it will pay the farmer to properly care for his flock during the next six months.

One of the first considerations is the selection of stock. An up-to-date poultryman will cull his stock from the day the chicks are taken from the incubator until they reach maturity. However, the farmer would scarcely have time to do this, so a simpler method must be adopted. As soon as the nights become cold so that the pullets prefer the house to roost in, it is a good plan to catch up all the stock which is outside and shut them up in the house. This can be done in the evening. The next morning it is an easy matter to examine the stock and select out the birds which are undesirable as layers. It is only by handling each bird separately that you can get a fair idea of the quality and health of your stock. All undersized, late hatched pullets should be sold, as it will not pay to keep them through the winter for the few eggs they will lay in the spring. Select out the weak, deformed pullets, especially those which appear to have an inherited weakness as indicated by crow-shaped heads, thin breasts, weak shanks, etc. These birds rarely lay enough eggs to pay for the feed they consume, and only detract from the appearance of the flock. Last of all, remove any birds which show signs of sickness or disease. Such specimens may recover sufficiently to yield a profit, but as a rule, such is not the case. There is the added danger of breeding from such birds the following spring, thereby decreasing the vitality of the flock. The time spent in going over the flock is not wasted by any means, as it may mean the checking of some disease which would not be noticed otherwise.

### THE HOUSE.

The next thing which demands our attention is the house. This subject was discussed in a previous article, but a few points deserve special emphasis. The house should be dry. This is essential, especially during the fall when fowls are molting and

are susceptible to the cold. If there is a tendency for dampness, ventilate thoroughly, put in an extra deep litter of straw and change the litter quite frequently. Have the nests clean. A hen prefers a clean nest to a dirty one and it will help in driving out the lice and mites. If the pullets start laying in the nests in the fall, they will not care to lay elsewhere as long as the nests are kept clean. The farmer who complains that his hens lay all over the barn is the one who thinks it a waste of time to clean the poultry house more than twice a year. A large percentage of the bad eggs produced on farms are due to the fact that the hens have no desirable nests and lay where they choose, either in the barn or shed. Under such conditions it is impossible to gather the eggs regularly. When the problem of good stock and proper houses is solved there remains but one thing to make the flock profitable and that is, proper feeding. The farmer who successfully raises his flock to maturity and then expects the pullets to lay with only ordinary care is sure to be disappointed. To get eggs in the fall and winter, when they are high in price, requires some knowledge of the needs of the fowl and how best to supply these needs.

### FEEDING.

It is just as important to feed a hen a balanced ration as a dairy cow or horse. The body of the hen requires fats, carbohydrates, proteids and mineral matter. These elements are necessary to maintain the body and to make up the egg. Experiments conducted by the different experiment stations prove conclusively that a hen requires a ration with a nutritive ratio of about 1 to 4.6, that is, one part of protein to 4.6 parts carbohydrates and fat combined. The ration which will supply these nutrients with the least waste and still keep the fowl in laying condition is the most economical to feed. A brief summary of the methods of feeding at the Experiment Station at Manhattan, and the reasons why these methods are followed may prove of interest to some people who are having feeding troubles. The rations fed to the plant stock consist of whole grains and a dry mash.

### THE GRAIN RATION.

This ration, which consists of 10 pounds corn chop, 10 pounds wheat and 5 pounds oats is fed twice a day, morning and evening, in a deep litter of straw. Thus the birds are forced to scratch for their grain during the morning, and get a certain amount of exercise which is especially desirable during the winter. Kafir corn can be substituted for the Indian corn as it has practically the same feeding value. In the evening the feeding is not quite as liberal as in the morning. Enough grain is fed so that the fowls go to roost with some whole grain in their crops. It takes longer for the whole grain to digest than the ground feed, and by feeding it late in the afternoon, it will digest during the night.

Many people make the mistake of either over or under feeding. Feed sufficient grain in the morning to keep the birds busy scratching for an hour or two. This can be done by feeding cracked grains. It will not require very much whole corn to satisfy the average hen, and after her crop is full nothing can induce her to exercise. Over feeding shows itself in the over-fat hen and this hen is not, as a rule, profitable. The other trouble, under feeding, can be recognized by occasionally handling the birds and feeling of their crops. The attitude of the birds upon entering the pen is another indication of whether you are feeding correctly. As one poultryman has put it, a properly fed hen will follow you in a leisurely, suggestive way, the under-fed hen will fly at you in her anxiety to be fed, and the over-fed hen will not notice you come in or go out. After various experiments in feeding hens, it has been found that a certain percentage of the food should be in a form which is easily digested in order to supply the needs of the body during heavy egg production. The dry mash as fed at the station consists of 4 pounds corn meal, 4 pounds wheat bran, 6 pounds wheat middlings, 1 pound oil meal, 1 pound alfalfa meal, 4 pounds

meat scrap. This is fed dry in a hopper, open during the entire day and closed only at night to keep out the rats, if such animals are about. The mash is fed dry, as it is much safer than a wet mash and at the same time requires less labor. The large poultry farms in the east are nearly (Continued on page 14.)

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One of the best poultry ranches in the state. Two acres adjoining Washburn college campus, 8-room house, cellar, cistern, well water, barn. Best poultry house in county. Fruit and ornamental trees. Price \$1,000, half on time if desired. No trade. POULTRYMAN, Kansas Farmer Office.

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BUFF ROCK COCKERELS, HIGH CLASS birds \$1 and \$2. Mrs. John Bell, Ackerland, Kan.

105 PURE SINGLE COMB BROWN LEG-horn cockerels; farmers' prices. Chas. Dorr, Osage City, Kan.

FINE SINGLE COMB WHITE LEGHORN cockerels; pure bred from high priced stock. Will sell for \$1 to \$3 each. Clara Colwell, Smith Center, Kan.

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A fine lot of Barred Rock cockerels at \$1.50 each.

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WE HAVE GOOD EVEN BARRED AND yellow legged B. P. Rock and S. C. R. I. Red cockerels for sale at reasonable prices. Write us. O. C. Gentry, Norton, Kan. R. R. No. 2.

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**GRAYHOUNDS—EXTRA GOOD; FIVE** months old; males \$2.50; females, \$2.50. G. D. Willems, Inman, Kan.

**FOR SALE—POINTERS, COLLIE AND** White Esquimo puppies. Brockway Kennels, Baldwin, 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.

## HOGS.

**MAKE OFFER ON GOOD YEARLING** Berkshire boar. H. B. Cowles, Topeka, Kan.

**FOR SALE—O. I. C. PIGS, EITHER SEX.** O. T. Harlow, Route 1, Vesper, Kan.

**FOR SALE—NICE REGISTERED DUROC** Jersey boars and gilts; spring farrow; good breeding. I. W. Poulton, Medora, Kan.

**FOR SALE—AN EXTRA GOOD PURE** bred Berkshire boar 2 years old now, heavy bone, low down, fancy head and ear and sires "show" pigs. We are breeding his gilts and have to change boars. Updegraff & Son, Topeka, Kan.

## HIDES AND FURS.

**SHIP HIDES AND FURS TO JAMES C.** Smith Hide Co. Quick returns. Highest prices. Write for prices and shipping tags. Topeka, Kan.

## PATENTS.

**SEND FOR FREE BOOKLETS—ALL** about patents and their cost. Shepard & Campbell, 500 J. Victor Bldg., Washington, D. C.

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**REMINGTON TYPEWRITER CHEAP;** perfect condition; does splendid writing; a child could operate it; could ship on approval. Frank K. Payne, Route 5, Rosedale, Kan.

## HEDGE POSTS.

**HEDGE POSTS FOR SALE IN CAR** lots. W. H. Bitts, Melvern, Kan.

## MISCELLANEOUS.

**HOW TO MAKE CANDIES AND CHILI—** Price \$1. Alf Higgins, Stafford, Kan.

**CHRISTMAS AND NEW YEAR POST** cards. Beautiful New Designs. Fifteen for 25 cents by mail. Mercantile Supply Company, Page and Taylor Aves., St. Louis.

**TOBACCO INJURES YOU. DON'T TAKE** dope, try my system. YoYu will be glad. Safe, sure, pleasant, permanent. Send your name only. J. Edw. Cook, Wichita, Kan.

**HOUSEWIVES—REDUCE THE COST OF** living. Send us your address and we will give full particulars free. Chemical Formula Company, 222 Delaware St., Leavenworth, Kan.

## CATTLE.

**HOLSTEINS—YOUNG CALVES \$12 EACH.** John Bull, Cimarron, Kan.

**ALYSDALE SHORTHORNS—HERD** headed by Archer's Victor No. 292012. For sale, a choice lot of richly bred yearling bulls; also some heifers and cows, at prices easily within the reach of any farmer who wishes to improve his herd. Write or call on Chas. W. Merriam, Columbian Building, Topeka, Kan.

**SUNFLOWER HERD HOLSTEINS—Have** for quick sale two young service bulls, one's four nearest dam's averages 26 lbs. butter 7 days, other one's three nearest dam's averages 27 lbs. butter 7 days. Will sell for half their real value to avoid wintering. F. J. Searle, Ockaloosa, Kan.

**FOR SALE—12 GOOD COWS AND 16 2-** year-old heifers, ¾ to ¾ Holstein and well marked. Bred to my registered bulls. 6th Johanna Aggie Lad and Colantha Korndyke 4th. A bunch of this quality rarely offered for sale. H. B. Browning, Linwood, Kan.

## The Care and Feeding of Laying Hens.

(Continued from page 13.)

all feeding the dry mash and they report better results in egg production, fertility and hatchability of the eggs. There is no danger of under feeding the mash as the fowls can help themselves and it is too dry for the birds to eat it greedily. They will eat of it in small quantities several times during the day and this more nearly approaches the natural method of feeding. We have found by regulating the supply of whole grain we can regulate to a certain extent the quantity of mash consumed. The best results have been obtained where two-thirds of the food consumed was grain and one-third mash.

## GREEN FOOD, GRIT AND SHELL.

These foods are all essential. The matter of green food is often neglected during the winter, the time of the year when it is most needed. Its value lies not entirely in the nutrients it contains or its analysis in terms of carbohydrates and fats, but rather in its effect upon the physical condition of the bird. The juices of such vegetables as cabbage, turnips, and beets aid in the digestion of other foods and tend to keep the birds in a healthy condition.

Grit is the hen's teeth and the best

grit is the hard, sharp material such as quartz, mica-spar, etc. A grit which is not hard does not serve its purpose. The shell should also be moderately hard. For this reason oyster shell is better than clam shell. The latter is so soft that it breaks up too rapidly in the gizzard and is wasted. The oyster shell being harder remains in the gizzard for some time and is dissolved as needed. If we expect the hen to do her best we must supply the materials in the proper form. Oyster shell is a necessity for high egg production. There is some mineral matter in grains, but not nearly enough to supply the lime in the egg shell. Soft shelled eggs are, as a rule, directly traceable to a lack of mineral matter in the ration.

## PURE WATER.

The body of the hen and the egg are made up largely of water. It does not cost a cent more to feed pure water and to keep it pure than to force the birds to drink filthy water. The water pan can be one of the best ways to spread disease. At the station a galvanized water pan 14 inches in diameter with flaring sides is used. This pan is easy to keep clean, holds enough water for 35 birds for one day, and in the winter when the water is liable to freeze over, the ice is easily removed. During the winter

lukewarm water is given the fowls in the morning. During the extremely warm weather in summer, the pans should be filled twice a day. You will be astonished in the appearance of your flock if they have cold water to drink instead of luke warm water in a semi-filthy condition. It has been found advisable and practical to put the water pan upon a small platform so that the hens will not scratch the litter into it. As mentioned before, disease spreads rapidly and filthy warm water makes an ideal place for the germ of disease to multiply.

## OTHER FOODS.

There are several other foods which are used extensively on the farm, one of which is green cut bone. This makes an excellent food during the winter for laying hens, especially if fed properly. When fed daily one pound to 25 hens is a safe amount. There is danger of feeding too much and it should never be fed during the months when there is danger of the material spoiling. The same thing may be said of "cracklings," a by-product of the packing houses.

There are many other factors which might be discussed in this article but any one desiring further information on the subject may obtain bulletin 164, "The Selection and Feeding of Laying Hens," by writing to the Di-

rector Experiment Station, Manhattan, Kan., Poultry Department.—F. S. Jacoby, Kansas State Agricultural College, Manhattan, Kan.

## THIS BOOK TELLS HOW YOU CAN MAKE MONEY

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# Kansas Land

## WICHITA COUNTY

160 acres choice agricultural land only 10 miles from Marienthal and 17 miles from Leoti. All smooth and tillable black soil, free from sand or stones. Sheet water at 100 feet, good neighbors and a bargain at \$1,200. Further particulars on application.

ALBERT E. KING

McPHERSON, KAN

## CORN AND ALFALFA FARM

300 acres; all fine bottom farm; 200 acres under cultivation; 50 acres of fine alfalfa. Practically all the farm tillable land. Lots of improvements all in good condition and nearly new. Two miles from Manhattan, Riley county, Kansas. Price \$25,000. Good terms. Address

BARDWELL &amp; BARDWELL, Manhattan, Kansas

## MY 320 ACRE FARM FOR SALE

Lying in the beautiful valley of the Arkansas River, 6 miles from Winfield, county seat of Cowley county; every foot suitable for alfalfa; 20 acres in alfalfa; balance all in cultivation; suited to corn, oats, wheat—anything that grows in Kansas.

### House, Barn and Implements on Each Quarter

Price \$105 per acre if sold quick and direct to purchaser without commission. Land in this valley is selling at \$110 per acre. Want to sell quick to go into other business. Will sell one or both quarters and make terms. Address Box 123, Winfield, Kan.

## DO YOU WANT TO SELL YOUR FARM?

I can tell you how to bring it to the attention of thousands of buyers, which can be done for a very small expense. My information and experience is free to you. If you don't like what I shall propose, there will be no harm done or good will lost. Just give me a chance to put before you what I have in mind. Write me at once.

E. L. GARVER, BOX 142, TOPEKA, KAN.

## TWO EASTERN KANSAS LAND SNAPS

Forty acres, all smooth, good house and barn; also all necessary houses and yards for chicken and hog raising; \$1800; good to Dec. 1st. 480 acres farm, fine land, improvements cost \$10,000; fitted for raising fine stock; \$50 per acre.

BALDWIN &amp; CATE, Manhattan, Kansas.

## BARGAINS HUNTERS LOOK HERE

80 acres, all in cultivation, small improvements, fine well of water, nice shade, fruit, R. F. D., telephone line passes the house, school 1/4 mile. This farm lays just rolling enough for drainage; on main road, 8 miles to Eureka. Price \$3,500. Inc. \$1,545. Write

G. K. JACKSON LAND CO., Eureka, Kan.

## SOUTH CENTRAL KANSAS

BEST OF ALFALFA, WHEAT AND CORN LAND.  
Send for list.

J. E. WEST, 331 E. Douglas, Wichita, Kan.

### A SPECIAL BARGAIN.

760 a. stock ranch, well imp., 4 m. town, 100 a. bottom land for alfalfa, bal. fine bluestem grass pasture land, well fenced, 4 wires, good house, barns, all kind of outbuildings, R. F. D., telephone; everlasting water. Only \$22.50 per acre. \$8,000 can run as long as wanted at 6 per cent; balance cash.

H. F. ADAMS &amp; CO., Latham, Kansas.

## COME TO FORD COUNTY AND GET RICH

Come to the famous Ford County Wheat Belt, where two crops pay for the land. If I do not show you that this is true I'll pay your fare for the round trip. Best of climate, soil and water. Descriptive price list upon application.

G. L. PAINTER &amp; CO., Dodge City, Kansas.

### EASTERN KANSAS FARM BARGAIN.

160 acres 1 1/2 miles from Osage City, Kan., 45 acres under cultivation, 5 acres good orchard and grove, balance native grass pasture and meadow, 4 room house in good repair, barn 50x60 with hay loft, corn cribs, hen houses, hog and cattle sheds, plenty of good water, R. F. D. and phone. This is a bargain and won't last long. Act quick. Price \$6,000. For full particulars write

J. G. RAFF &amp; CO., Osage City, Kan.

FARMS, Ranches, Mdsc., Trades. Would you build an agency? Buckeye Agency, Agricola, Kan.

### ANDERSON COUNTY BARGAINS.

160 acres, good improvements, 4 1/2 miles good town, \$45 acre. Improved 160, 8 miles Jarrett, \$6,400. Improved 80, \$3,000. Write for free list.

J. E. CALVERT, Garnett, Kansas.

ANDERSON COUNTY FARMS for sale and exchange, at \$40 per acre and up. Expansion list free to buyers.

SIMON LAND CO., Garnett, Kansas.

IF YOU ARE INTERESTED IN CENTRAL KANSAS, WESTERN KANSAS OR COLORADO LAND FOR A HOME OR INVESTMENT, STATE YOUR CHOICE TO C. C. WALLACE, BROOKVILLE, KANSAS.

WILL PLEASE THE MOST SKEPTICAL. 400 acres fine land and fine improvements, \$65 per acre. Large and small farms, attractive prices, good terms. New free lists. HOLCOMB REALTY CO., Garnett, Anderson County, Kansas.

FORD COUNTY wheat and alfalfa lands at the lowest prices. Special: 320 acres to exchange for hardware stock. Write us. LOPE BROS. & WOLF, Dodge City, Kansas.

### YOU'LL LIKE LINN COUNTY, KAN.

We have abundant coal, wood, natural gas and good water. The land raises magnificent crops of alfalfa, timothy, clover, bluegrass, oats, corn and wheat, R. F. D. and phone at your door. Price \$20 to \$80 per acre. List free. A. E. ROOT, Pleasanton, Kan.

### COME TO LIBERAL.

New lists Seward and Stevenson Co., Kan., Beaver and Texas Cos., Okla. Wheat and broomcorn land, \$10 to \$25.

KAN. &amp; OKLA. LAND CO., Liberal, Kansas.

## Want to Buy a Farm?

Write us what you want, as to location, price and terms. We can very likely put you into immediate touch with just the very bargain you want. Write us at any time—a postal card will do. Your inquiries to us puts you under no obligations to any one.

JACKSON E. E. CO., 1327 Quincy St., Topeka, Kansas.

MIAMI COUNTY—Improved farms \$45 up, good terms. Cheaper and better than farther west. List free. Carpenter & Peck, Miami County Bank Bldg., Paola, Kan.

FOR SALE—Eastern Kansas black prairie corn, alfalfa and clover farms. Some exchanges. Write today for free list and map. G. T. KINSEY, LeRoy, Kan.

KIOWA COUNTY, KANSAS. 20,000 acres where wheat, corn and all staple products produce paying crops every year. \$20 and up. Don't write, but come. Edgar B. Corse, Greensburg, Kan.

WRITE FOR FREE LIST JUST OUT of Lyon and Coffey county and Western Kansas lands, for sale or exchange. Send your name today. COLE & HEDRICK, Hartford, Kan.

DO YOU KNOW that you can still buy wheat and alfalfa land in Ford county for \$15 an acre and up? List free.

J. E. REESER &amp; CO., Dodge City, Kansas.

GRAY COUNTY WHEAT LANDS that often pay for themselves in one crop. \$10 to \$25 per acre. Write for full information to

KANSAS LAND CO., Cimarron, Gray County, Kansas.

A BARGAIN. 160 acres of fine creek bottom land, 50 acres in cultivation, eight miles from good town and in good neighborhood. It won't last long. Answer quick. A snap at \$1,500. MACKAY & EVANS, Liberal, Kansas.

CENTRAL AND WEST KANSAS LANDS—Bargains in corn, wheat and alfalfa lands in Central and Western Kansas. If you have a bargain for sale, list it with us. If you want to buy, write us for list. RILEY & REMBERT, Geneseo, Kan.

TRADES. We will exchange irrigated sugar beet and alfalfa lands, unirrigated wheat and ranch lands, city property, merchandise and live stock for good proposition anywhere. Describe and price your proposition. CONYERS & PIPPENGER, Garden City, Kansas.

160 ACRES 2 1/2 MILES FROM HARTFORD, extra well improved, all kinds of fruit, half in cultivation, half in grass. 25 sown to alfalfa, good stands quick sale \$65 per acre, leave \$3,500 on farm at 5 per cent. 30 page list of bargains free. HARTFORD REALTY & LOAN CO., Hartford, Kansas.

435 ACRE FARM—DIRT CHEAP. 435 acres, 2 to 3 mi. from 5 towns, Linn Co., Kan. Rich soil, small grain, corn and tame grass farm. Improvements worth \$5,000; good repair. All fenced; part hog-tight. A genuine bargain for \$27,500 per a. Large list and detailed description free. T. O. M. LAND CO., Coffeyville, Kansas.

GREENWOOD COUNTY FARMS Large 40-page handsomely illustrated book, containing valuable information and list of 50 farms, mailed free and postpaid. Send your name today. F. D. STOUTON, Madison, Kansas.

LIVE AGENT WANTED in your locality to assist in selling corn, wheat and alfalfa land. We own thousands of acres in Pawnee and adjoining counties. Write for proposition on our own ranches. FRIZELL & ELY, Larned, Kansas.

## THEY HAVE DONE & FIXED THIS

320 acres, 220 in cultivation, 50 acres pasture, 50 acres in alfalfa, 320 acres all fenced and cross fenced with woven wire hog tight fence and cement posts. Fine seven room two-story house. Barn for 12 horses, hay mow with grain room for 5000 bushels and corn crib for 5000 bushels. Two double granaries, three new hog houses, large and good. Also milk house, tool house, coal house and chicken house. Large cement fish pond. Watered by good spring in pasture, well and windmill water is piped through kitchen, milk house and two cement tanks holding 500 barrels of water. Four acres of orchard with all kinds of fruit. Located two miles from railroad town, R. F. D. and telephone. One mile to school and 45 miles to Wichita, Kan. Price \$80 per acre. Mortgage \$4800, drawing 5 1/2 per cent interest.

EDWIN TAYLOR REALTY CO., 107 South Main St., Wichita, Kan.

### NESS COUNTY BARGAIN.

320 acres 3 miles from Ness City, 190 acre in wheat, 1-3 of wheat goes with place delivered at market. Place is all fenced, living water, about 30 acres of rough land, balance all good wheat land, well located. Price \$25 per acre.

GEORGE P. LOHNES, Ness City, Kansas.

FARMS AND RANCHES In Greenwood county, the best known county in Kansas, where corn, clover and bluegrass grow to perfection. We own and control much land here, and will suit you. WICKER & MARSHALL, Madison, Kansas.

MEADE, Ford, Clark and Gray county land, \$10 to \$20 an acre; prices advancing rapidly; now is the time to buy. Write for full information. Chas. Schwerdtfeger, Fowler, Kan.

### ANDERSON COUNTY.

320 a., 140 in cultivation, bal. pasture and mow land, good soil and water, seven room house, large barn, cribs, etc. Five miles to R. R. station. Price \$35 per a. Terms easy. A snap. Write for full information. GEO. W. ILLER & SON, Garnett, Kansas.

### TREGO COUNTY LAND.

Where prices are advancing rapidly. At low prices, on liberal terms. Near markets, churches and schools. Write for prices and descriptions. J. I. W. CLOUD, Wakeeney, Kansas.

320 ACRES, unimproved, 8 miles Dodge City, about 100 acres rough, all well grassed, near school, \$3,500.  
640 acres, 9 miles Dodge, 5 miles station, fenced, cross-fenced, 320 acres in cultivation, school on land, running water, fine stock proposition. \$19 an acre. Other lands. New list free.  
L. L. TAYLOR & CO., Dodge City, Kan.

## Wheat, Corn, Alfalfa

In Meade, Ford and Clark counties; land \$25 to \$50 an acre. List free. Eugene Williams, Minneola, Kan.

## Clark County Farm

520 acres, small set improvements, \$90 in cultivation, 10 miles R. R. town, \$25 per a. Lands for sale in any size tracts to suit purchaser at low prices.  
HALL & CLARK LAND CO., Minneola, Kansas.

## Miama County Land,

For free information about eastern Kansas land, where corn, wheat, timothy, clover bluegrass and all tame grasses grow at \$40 to \$75 per acre, write or see the  
PAOLA LAND & LOAN CO., Paola, Kansas.

KORN AND CLOVER. Farm bargains in Eastern Kansas. \$30 to \$50 per acre. Don't fail to write, but come and see.  
HALEY-McMULLEN CO., Mound City, Kansas.

SOLOMON VALLEY FARMS—Bargains in corn, wheat and alfalfa lands in Solomon Valley, Kansas. Write Thos. Lockhart, Niles, Kan.

## LOW-PRICED NORTHEASTERN KANSAS LAND.

Produces corn, clover, bluegrass and all staple crops in big yields. We can sell you improved farms here for \$40 to \$50 per acre. Have some good exchanges. Write for full information. THE OWL LAND AGENCY, Ozawie, Kansas.

FORD COUNTY LANDS. \$15 an acre and up on good terms. Lands in Grant and Kearney counties, \$10 and up. Good trades considered. If you want to double your money soon, buy quick, before prices advance.  
WATKINS & STANSBURG, Dodge City, Kansas.

KIOWA COUNTY LANDS At \$20 per acre and up with liberal terms, where all staples produce abundantly. We have better corn right now than you have on your \$150 land. Descriptive literature free. THE WAYNE LAND CO., Greensburg, Kan.

160 ACRES 2 1/2 miles of town, and in good country. Good house, good barn, some other outbuildings and a good orchard. 100 acres in cultivation and the balance in mow land and pasture. Can sell this at \$50.  
O. L. HOLLAND, Golf, Kansas.

4 OR 50 PER CENT FOR YOUR MONEY. Your bank will pay you 4 per cent interest for the money you have on deposit with them. We have made 50 per cent for hundreds of investors who have purchased real estate through us.

WHICH DO YOU PREFER? It is not a question of safety—one is safe as the other. Think it over and when you decide you are not getting as much out of your money as you should, then write us.  
F. M. LUTHER & SONS, Cimarron, Kansas.

LIVE AGENTS WANTED to sell town lots in best little city in Southwestern Kansas. Prices \$12.50 to \$50. Easy monthly payments. Best selling proposition ever placed on the market; good commission; no experience necessary; full instructions. Can you sell them? Write me today. John W. Baughman, Plains, Kan.

## 80 Acres Fine Land \$1600

Eighty acres 8 miles from Coffeyville, Kan., just across Kansas line in Oklahoma. 55 a. cult, 20 a. meadow, 5 a. pasture. No improvements but fine black land.

THE BOWMAN REALTY CO., Coffeyville, Kansas.

## 120 Acres

\$1,000.00 Cash. Balance long time at 6 per cent. All bottom land, good 4 room house, barn 30x36, 4 a. orchard, 10 a. alfalfa, balance in high state of cultivation, 10 miles from Topeka, 2 1/2 miles from main line of Rock Island.

THE FOX-COOK AGENCY,

104 W. 8th St., Topeka, Kan.

E. C. Fox. S. A. Cook. O. C. Black.

IMPROVED Anderson county corn, wheat, oats and alfalfa farms at \$40 to \$60 per acre. Write for our free list. Also good exchange propositions. Rice-Daniel Land Co., Garnett, Kan.

FORD, Clark, Meade and Gray county corn and wheat land \$15 to \$50 acre, on good terms. Write for new list, mailed free.  
H. E. McCUE LAND CO., Bucklin, Kansas.

SEVERAL good farms to trade for stocks of merchandise and land to exchange for city property. Land in the fertile Gulf Coast of Texas, \$20 per acre, on payments, fine climate and farmers get rich in a few years. We go down twice a month. Write me for particulars. Henry G. Parsons, Lawrence, Kan.

1120 ACRE COMBINATION RANCH. 25 head horses and colts above average and one registered archer stallion. Write for particulars. 80 acres first-class alfalfa land in famous Artesian Valley at a great bargain. WM. MILLER, Meade, Kan.

EASTERN KANSAS, Where clover, timothy, wheat and corn is king of crops. 80 smooth, improved, from \$40 to \$60 per acre. 240 improved, a bargain, \$40. Write W. K. SHAW, Garnett, Kansas.

### NEOSHO COUNTY, KANSAS.

One 80, \$2800; two 80s, \$3000 each. 160 a., most in cultivation, lot creek bottom, fair improvements on all, well located, close to school, church, R. R. station. Come and see these bargains.

BYRD H. CLARK, Erie, Kansas.

200 ACRES, 10 miles from Delphos, 40 a. pasture, 160 in cultivation, 175 can be cultivated, creek, plenty of fruit for family use. Good house, barn and outbuildings. One of the best corn and alfalfa farms; can be bought for \$75 per acre; 1/2 cash, balance 6 per cent.  
Box 114, Minneapolis, Kansas.

FOR SALE—193 a., 6 mi. Garnett, 3 mi. Haskell, on Mo. Pac. R. R., 120 a. valley and slope land in cult., balance rough pasture with limestone rock on 1-3 of it, well fenced and cross fenced, new 6 r. house; splendid barn, 32x42; 2 good wells; family orchard. A snap at \$5,500. New list free. SEWELL LAND CO., Garnett, Kan.

### NOW IS THE TIME TO BUY LAND IN ELK COUNTY.

60 acres, improved, close to town.....\$2400  
40 acres, improved, close to town.....1600  
80 acres, improved, close to town.....2800  
120 acres .....3600  
140 acres .....6300  
160 acres .....7000  
180 acres .....6500  
Just a few of our many bargains. Write for list. D. M. Watkins Realty Company, Moline, Kan.

### O. U. BARGAIN HUNTER!

Three fine quarters at \$47 per a., 4 mi. out; 3 choice half sections, \$40, \$45, \$50 per a., 3 and 4 mi. out. Snap. Two elegantly improved, highly cult. farm joining city, \$100 per a. Many choice trading propositions.

O. E. LOWER, Herington, Kansas.



## KANSAS LAND.

**EASTERN KANSAS**, Franklin Co., farms \$40 to \$75 per acre. Write for list. Richmond Land & Loan Co., Richmond, Kan.

**IMPROVED FARMS** in S. W. Kansas and N. W. Oklahoma, \$10 to \$25 per acre. Write Moore & Falls, Liberal, Kan.

**LINN**, Anderson and Bourbon county farms, \$25 to \$75 per acre. Best bargains in Kansas. Write for full information. E. A. BARNES, Blue Mound, Kan.

**NESS COUNTY, KANSAS.**  
If you want wheat land, if you want alfalfa land, if you want pasture land, if you want improved land, I've got it. If you will write me just what you want, I will find it for you at prices that can't be discounted.  
J. G. COLLINS, Ness City, Kansas.

**640 ACRES**  
Ten miles from county seat, 500 acres smooth tillable land, 150 acres in cultivation and in wheat, rent share to purchaser; 250 acres second bottom alfalfa land, soil deep black sandy loam, shallow water. Price \$15 per acre. Write quick.  
MAIRS & SCHILLING, Kinsley, Kan.

**NORTHEASTERN KANSAS.**  
The best agricultural section of Kansas. Wheat, corn, alfalfa, tame hay, potatoes and fruit are making our farmers rich. Land \$25 up. Big list to select from. Write for full information.  
E. L. HORTH, Centralia, Kansas.

**EXTRA SPECIAL IN FORD COUNTY LANDS.**  
Seven sections fine wheat land, in a solid body, close to Spearville, for sale for from \$25 to \$60 per acre. Write quick.  
SMITH & BARTZ, Sole Agents, Spearville, Kansas.

**McPHERSON CO.**—160-a. farm for sale to settle estate; 120 a. in cult., 6-rm. house, barn 36x40, room for 2000 bu. grain, 50 tons hay, fine chicken house, cellar, windmill, well, etc. Price \$10,500; \$3,700 incumbrance.  
BREMYER & BRUBAKER, McPherson, Kansas.

**160 ACRE FARM**, on the line of survey; 40 acres in cultivation and sown to wheat; 1/4 goes to buyer. Land all tillable and of dark sandy loam, surface rolling. This farm must sell in the next 30 days and is priced to sell at \$7 per acre. Write for particulars. The Fidelity Land & Trust Co., Meade, Kansas.

**WE HAVE** for sale for a few days a beautiful 5 acre tract, one mile from center of this city, with nice improvements, 5 or 6 room house and good outbuildings, fenced in good shape, a dandy home, just the place for chickens, cow and pigs and garden truck. Price \$3500; will take \$1000 in trade. C. W. Hinman Realty Co., Helton, Kan.

**SEWARD AND STEVENS**  
Counties corn and wheat land, \$10 to \$25 an acre. Crops often pay for the land in one year. The best investments in Kansas are to be found here. Write for free descriptive literature.  
CHARLES MOLTER, Liberal, Kansas.

**YOUR EIGHTY CHEAP.**  
Level 80 a., improved, orchard, close in, \$80 per acre; gas and oil rental; \$3,500.  
80 a., all first bottom, fertile, improved. Big new barn, orchard, free gas, \$3,200. These are snaps, cash.  
B. H. DUNBAR, Tyro, Kansas.

40 a., improved, close in. A snap at \$1,600

**THE BEST TOWN TO LIVE IN.**  
If you would like to live in the most beautiful city in the West, with unsurpassed education, business and religious advantages, in a city clean, progressive, where real estate values are low, but steadily advancing, where living expenses are reasonable, a city with natural gas at lowest price, address the  
**SECRETARY of the COMMERCIAL CLUB,**  
Topeka, Kansas.

**READ THIS OFFER.**  
80 acres all good land, fine dark soil. 12 a. timothy and clover; balance in cultivation. 16 a. hog tight, 5 room house, good small barn, watered by well and spring, small orchard, 1 1/2 miles to school, R. F. D. and telephone, 4 1/2 miles to Glenloch and 8 miles to Richmond, Kan. Price \$4000. Can give terms on \$2000. Address owner,  
JOHN W. STIFFLER,  
Garnett, Kan., R. F. D. No. 6.

**SOUTHEASTERN KANSAS SNAPS.**  
160 acres, 3 miles from Iola, at \$55 an acre. 160 acres, 4 miles from Thayer at \$45. 160 acres, 6 miles from Moline, at \$37.50; \$1,200 cash, balance like renting. Five 80-a. farms at from \$35 to \$50 per acre. Write for lists and further descriptions. Address  
**THE ALLEN COUNTY INVESTMENT CO.,**  
Longton, Kansas.

**FINE FARMS CLOSE TO TOWN.**  
160 acres, two miles out, all tillable, good five room house, good barn, well fenced and cross fenced, lays nice, abundance water, across road to school, gas for fuel, only \$8800.  
200 acres, one mile of town, six room house, big barn, good soil, abundance water, price \$8500. Land is selling rapidly here. Write for particulars.  
DONAHUS & WALLINGFORD,  
Mound Valley, Kansas.

**NEOSHO VALLEY FARMS.**  
We have for quick sale unusual bargains in well improved farms in the rich Neosho River Valley from 80 acres and upwards, located near the city of Emporia, Kan., which has the State Normal and the College of Emporia. We also have several suburban orchard and garden tracts from 20 to 80 acres, close in, that will afford nice homes and investments. For particulars and prices address  
**THE HEATH COMPANY,**  
Topeka, Kansas.

**EXCEPTIONAL PROPOSITION.**  
Good smooth half section, sandy loam, 19 miles from Liberal, 15 miles from Lyons, Okla., 6 miles from Gulf and Northwestern Survey; one mile from church; mile and a half from school. Telephone line. Price \$5000. Carry \$2000 3 years at 7 per cent interest. Take \$2000 in trade and \$1000 cash. This place has 6 room house and large barn, well and other improvements. Don't sleep on this. Land-Thayer Land Co., Liberal, Kansas.

## LIVE STOCK



Keep plenty of charcoal in the pig pen. It is wholesome and aids digestion. Charcoal made from corn cobs is highly recommended.

## A New Remedy for Animal Disease.

Prof. H. C. Carel, of the University of Minnesota, as has already been made public quite generally through the press, has discovered one of the most powerful of germicides, and the first of all, to be non-poisonous, chemically. The poisonous quality of Benetol has been found to be about that of common table salt. It can therefore be given in large doses internally to human beings, and hence, it follows, in large quantities to animals in the same way. Tests on horses show that ounce doses in capsules are easily assimilated, with germ killing results.

In order to have a perfect test made, that can be bulletined to the stock raisers of the country, several experiment stations have been sent quantities of Benetol, with which to make the test. The Minnesota Station will probably complete its tests first. They will consist in giving infected hogs internal doses, and sprays. In the dread sheep disease, in which the worms enter the brain, the plan is to inject different quantities of Benetol under the skull where it will be absorbed by the brain. Chemists assert that if the chemical can be sent to the seat of the trouble, it will kill the germs in a very short time, soon enough to save the animal.

Professor Carel states that he will send a desired quantity to any station that has not already secured it, for the purpose of making any tests they may desire. He says it will be beneficial for spraying fruits because of its great germ killing power, and the fact that it is not a poison, which will allow its use at any stage of the development of the fruit. This cannot be done with the poisons now in use. He says it will surely kill all fungus germs.

The Department of the Interior is testing Benetol on several Indian reservations, and several pronounced it a success, and is doing the same at army posts. The navy has already pronounced it a success, and is using it at the Marine Hospital at New York. The Baltimore water board is testing Benetol with a view to using it to purify the water supply of Baltimore.

## Recognized Horse Registry Companies.

Arabian Horse Club of America, H. E. Bush-Brown, Newburg, N. Y.

Cleveland Bay Society of America, R. P. Stericker, 80 Chestnut Ave., W. Orange, N. J.

American Clydesdale Breeders' Association, R. B. Ogilvie, Union Stock Yards, Chicago, Ill.

French Coach Horse Register Co., Chas. C. Glenn, Columbus, Ohio.

French Coach Horse Society of America, Duncan E. Willett, Maple Ave. and Harrison St., Oak Park, Ill.

German Hanoverian and Oldenburger Coach Horse Society of America, J. Crouch, Lafayette, Ind.

National French Draft Horse Association, C. E. Stubbs, Fairfield, Iowa.

National Register of Belgian Draft Horses, J. D. Connor, Jr., Wabash, Ind.

American Hackney Horse Co., Gurney C. Gue, 308 W. 97th St., New York City.

Morgan Register, T. E. Boyce, Middlebury, Vt.

Percheron Society of America, G. W. Stubblefield, Union Stock Yards, Chicago, Ill.

Percheron Registry Co., Chas. C. Glenn, Columbus, Ohio.

American Percheron Breeders' & Importers' Registry Co., J. A. Forney, Plainfield, Ohio.

American Saddle Horse Register, I. B. Nall, Louisville, Ky.

Shetland Pony Club, Julia M. Wade, Lafayette, Ind.

American Suffolk Horse Breeders' Association, Alexander Galbraith, DeKalb, Ill.

American Shire Horse Association, Chas. Burgess, Wenona, Ill.

American Stud Book (Thoroughbred), W. H. Rowe, 571 5th Ave., New York City.

American Trotting Register, W. E. Knight, 355 Dearborn St., Chicago, Ill.

Welsh Pony and Cob Society of America, John Alexander, Wenona, Ill.

Jacks and Jennets, J. W. Jones, Columbia, Tenn.

## About Registering Horses and Jacks.

Are the Percheron Registry Company of Columbus, Ohio, and the Percheron Society of America, the only registers that are recognized by the Live Stock Board of Kansas for Percheron horses?

What breeding is required of a Standard bred horse to be registered?

Is a horse that is registered in the American Trotting Association recognized by the Live Stock Board?

What are the rules to have jacks registered?—J. A. Akin, Rantoul, Kan.

1. The Kansas Live Stock Registry Board took for its standard the registry associations recognized and approved by the United States Department of Agriculture. The Percheron registry associations recognized by the Kansas State Live Stock Registry Board are as follows:

Percheron Society of America, Wayne Dinsmore, Secretary, Union Stock Yards, Chicago, Ill.

The American Breeders and Importers' Registry Co., John A. Forney, Secretary, Plainfield, Ohio.

2. The following are the rules for registering animals in the American Trotting Register:

When an animal meets these requirements and is duly registered it shall be accepted as a Standard-bred trotter:

(1) The progeny of a registered Standard trotting horse and a registered Standard trotting mare.

(2) A stallion sired by a registered Standard trotting horse, provided his dam and grandam were sired by registered Standard trotting horses, and he himself has a trotting record of 2:30 and is the sire of three trotters with records of 2:30, from different mares.

(3) A mare whose sire is a registered Standard trotting horse, and whose dam and grandam were sired by registered Standard trotting horses, provided she herself has a trotting record of 2:30 or is the dam of one trotter with a record of 2:30.

(4) A mare sired by a registered Standard trotting horse, provided she is the dam of two trotters with records of 2:30.

(5) A mare sired by a registered Standard trotting horse, provided her first, second, and third dams are each sired by a registered Standard trotting horse.

3. The American Trotting Register Association is the only association registering Standard bred horses that is recognized by the U. S. Department of Agriculture, and it is used as the standard by the Kansas Live Stock Registry Board.

4. The Kansas law does not require that jacks standing for public service be registered by the Kansas Live Stock Registry Board. The only recognized association registering jacks and jennets is the American Breeders' Association of Jacks and Jennets, J. W. Jones, Secretary, Columbia, Tenn. The rules for registration may be secured by writing to Mr. Jones.—Prof. R. J. Kinzer.

A mud hole is not absolutely necessary in a hog pen.

Out in Abilene the city tried to dispose of some bonds to the bankers and found a slow sale. The bonds were offered in small denominations and greedily snapped up by the farmers.

## More "Education" for the Farmer.

A new fertilizer paper has been started in the south, which announces that one of its purposes will be to "educate" the farmer in regard to the great advantages of mixed fertilizers, and the folly of home mixing. One of the means to this end consists of a series of cartoons representing the farmer in a most uncomplimentary way. The text accompanying these is an insult to the intelligence of the farmer. The plan is to have the local papers reproduce these, and in this the aid of the local fertilizer agent is expected. The editorial announcement concludes by stating that: "Once the good work is started, and the editors of the agricultural papers are convinced of the big savings to the farmers from using commercial fertilizers manufactured in an up-to-date factory, the battle will be won."

The battle is not likely to be won at all on this basis. Many local dealers are heartily in favor of meeting the wishes of their customers for raw material. Opposed to this is the attempt of the manufacturer to bind the local dealer not to sell raw materials, and if this fails, the manufacturer will not give the same credit accommodations on raw material as on mixed goods. The custom of manufacturers in giving a local dealer exclusive territory on the firms' brands, and then giving his next door competitor exclusive territory on brands of exactly the same composition but sold under the name of some "Bay window" company belonging to the same manufacturer, and continuing the process as long as the supply of dealers in a given town holds out, is not one that is likely to make the local dealer favor the manufacturers and their anti-home mixing plans, as against the best interests of the dealers' customers.

The editors of the agricultural papers are too well informed to take up any such scheme and they, as well as their readers, know that wherever home mixing has been intelligently tried, the "big savings" are all on the side of home mixing. It has been repeatedly shown that in factories equipped with the most elaborate machinery for mixing, it is by no means an unusual thing for goods to be mixed by exactly the same process as the farmer would use at home. This is especially true for small lots of high grade goods made from the best class of raw materials.

Many large factories are returning to the old process of wet mixing, and for this work there is a great advantage in using mixing machinery, since the process involves the use of sulfuric acid and has the manufacturing advantage of permitting the utilization of low grades of raw materials that a farmer would never think of buying, if offered to him in their unmixed condition; it also serves to disguise the filler.

The manufacturers continue to press the sale of 10-2-2 in the south, and 2-8-2 in the north, both of which permit the use of low grade raw material and filler.

The farmer demands formulas better suited to his crops and soils, and containing less filler. Brands of higher grade are meeting with increased sale, and farmers are learning that they can make their own brands to suit themselves. The ridicule of the trade papers will not deter them in this.

Home mixing is now rendered much more practical and profitable by the fact that dealers or farmers can now buy both nitrate of soda and potash salts direct from the producers, where heretofore they were obliged to get them through fertilizer manufacturers, many of whom placed all sorts of obstacles in the way of such purchases. This dealing direct with the producers of the two substances needed to supplement basic slag, acid phosphate or bone, in producing complete and filler-free fertilizers suited to the various needs of the farmer, results in a marked saving in cost of the raw materials and so adds to the profit resulting from home mixing.

Try building a tight board fence on the north side of the feed lot and make of it one side of the feeding rack. This gives shelter and feed at the same time.

If the pigs develop a lighter bone than that possessed by the sire and dam then there is something wrong with the feeding. Pigs must have bone and muscle forming feed and should never be allowed to lose their baby fat.



## EMPIRE BUILDERS

the engineer plunged at once into his own Herculean task of reorganization, emerging only when he made a tardy sixth at the president's dinner table in the hotel cafe in the evening.

The dinner, which the young engineer had been fondly counting upon as a momentary relaxation from the heart-breaking business strain, was a dismal failure on its social side. President Colbrith, as yet, it appeared, in blissful ignorance of the latest news from New York, had reserved the seat of honor for his new assistant, and the half-hour was filled to overflowing with minute and cautionary definitions of the assistant's powers and duties.

Ford listened with a blank ear on that side. There was work to do, and one man to do it. He did not care particularly to hear instructions which he would probably have to disregard at the first experimental dash into the new field. He meant to hold himself rigidly to account for results; more than this he thought not even Mr. Colbrith had a right to require.

After dinner he indemnified himself for the kindergarten lecture by boldly taking possession of Miss Adair for the short walk over to the private car. The entire world of work was still ahead, and a corps of expert stenographers was at the moment awaiting his return to the C. P. & D. offices, where he had established temporary headquarters; but he shut the door upon the exigencies and listened to Miss Adair.

"I am so sorry we are not going to be here to see your triumph," she was saying; adding: "It is a triumph, isn't it?"

"Only a beginning," he amended. "And it won't be spectacular, if we can help it. Besides, this east-end affair is only a preliminary. A little later on, if our tackle doesn't break, we shall land the really big fish for which this is only the bait."

"Shall you never be satisfied?" she asked jestingly. And then, more seriously: "What is your ambition? To be able to buy what your neighbor can not afford?"

"Big money, you mean? No, I think not. But I like to win, as well as other men."

"To win what?"

"Whatever seems worth winning—this fight, in the present instance, and the consequent larger field. Later, enough money to enable me to think of money only as a stepping-stone to better things. Later still, perhaps—"

He stopped abruptly, as though willing to leave the third desideratum in the air, but she would not let him.

"Go on," she said. "Last of all?"

"Last of all, the love of a true woman."

"Oh!" she scoffed, with a little uptilt of the admirable chin. "Then love must come trailing along at the very end, after we have skimmed the cream from all the other milk pails in orderly succession."

"No," he rejoined gravely. "I put it clumsily—as I snatch purses. As a matter of sober fact, love sets the milestones along any human road that is worth traversing."

She glanced up at him and the blue eyes were dancing. Miss Adair knew no joy to compare with that of teasing, and it was not often that the fates gave her such a pliable subject.

"Tell me, Mr. Ford; is—is she pretty?"

"She is beautiful; the most beautiful woman in the world, Miss Adair."

"How fine! And, of course, she is a paragon of all the virtues?—an angel without the extremely inconvenient wings?"

"You have said it: and I have never doubted it from the moment I first laid eyes on her."

"Better and better," she murmured. Then: "She has money?"

"I suppose she has; yes, she certainly has money. But that doesn't make any difference—to her or to me."

"It is simply idyllic!" was the ecstatic comment. "After all this there remains but one other possible contingency. Has she a willing mind, Mr. Ford?"

They had reached the steps of the Nadia, and the others had gone within. Ford looked soberly into the depths of the laughing eyes and said: "I would give all my chances of success in this Pacific Southwestern affair to be able to say 'yes' to that."

The station gong was clanging the departure signal for the New York train, and he swung her lightly up to the step of the car.

"Good-by," she said, turning to smile down upon him. And then, "I don't believe you, you know; not the least bit in the world."

"Why don't you?" he demanded. "Because the woman doesn't live who would be worth such a sacrifice as that would be—to Mr. Stuart Ford."

And this was her leave-taking.

(Continued Next Week.)

**CALIFORNIA IRRIGATED LANDS**—Famous Gridley colonies; large and small tracts; easy terms; improved farms; best homesteaders' proposition; write for particulars. Gridley Land Co., Gridley, Cal.

## MISCELLANEOUS FOR SALE and EXCHANGE COLUMN

**CORN, WHEAT AND ALFALFA LANDS** for sale or exchange. For particulars write The W. H. Dayton Land Co., Abilene, Kan.

**SECOND HAND AUTOMOBILE.** If you want to buy, sell or exchange a good second hand automobile, address at once 115, care KANSAS FARMER, TOPEKA, KAN.

## STOCK MERCHANDISE FOR SALE

Good, clean stock merchandise in north-eastern Kansas town. Will invoice about \$10,000. Want land. Eastern Kansas farm preferred. Other snaps. Write me your wants.

O. C. PAXSON, Meriden, Kansas.

WANTED  
FARMS

To buy 240 a. at \$60 per a.; \$4400 cash, balance to suit, joins town granary on R. R. right of way. Phone, free gas.

B. H. DUNBAR, Tyro, Kansas.

## HORTICULTURE

I have 35 by 139 feet of ground sloping easterly; very good ground. Could I get two crops from it, say early table peas and late sweet corn? There is always a good market for those here, and I want to raise as much as I can to decrease my indebtedness on the land. I wrote to Washington for a pamphlet on peas, but it seemed only to consider peas for stock feeding. If those are two good vegetables for my purpose, which are the best varieties to use? How early should the peas be planted and when should the corn be planted? How much of each kind of seed should I get, and where could I get a good quality? About how much would it cost? What corn I had last year was very poor, not wormy, but hardly a perfect, well filled ear in the lot.

Can anything be done to the ground now. It won't be plowed, only spaded deeply, no fertilizer, only leaves turned under.

Would peas, green beans and lima beans yield a larger return? Any information you can direct me to will be very much appreciated.—Mrs. R. E. Smith, 7410 East 15th St., Kansas City, Mo.

The amount of produce you can secure from a patch of ground 35 by 140 feet depends almost entirely upon the amount of work you are willing to expend upon the tract.

Peas and sweet corn are not the best vegetables for succession cropping. Sweet corn will succeed best on good, rich, strong land that has been well fertilized. This work should be done the previous fall or in early spring. A large amount of fertilizer is not recommended for peas. If the soil is thin a light application of fertilizer may be necessary for best crop of peas, but the best success is secured with soil that has been put in good condition a few years previously and has had the excess of fertility removed by planting cabbage, onions, sweet corn or other crops that require large amount of fertility. If your ground is already fertile and in a good state of cultivation, peas and corn will work well together, and for a small tract of land it is possible to apply an application of fertilizer on the soil after the peas are removed.

If you are to do all the work yourself it will be well to plant at intervals, not having the entire tract in peas that will ripen at once, as the picking will require considerable labor, but have the seed sowed at intervals, and in this way you may be able to supply the market much more steadily and not have the work come all at once.

If your ground is good and strong you can plant the rows as close as eighteen inches, and we have best success by opening a furrow two or three inches deep and planting the peas about a quart to the hundred feet of row. This makes them fairly thick in the row, but will insure a heavy yield if conditions are fair. The early varieties of peas have smooth seed: American Wonder, Nett's Excelsior, Alaska and Little Gem are good early varieties. The second early wrinkled varieties are: Abundance, Filibasket and Shropshire Hero. For the later crop, Telephone and Telegraph are good varieties.

The smooth seeded varieties may be planted as soon as garden work begins, and will stand a very considerable amount of frost without serious injury. The later or wrinkled ones should not be planted until the danger of frost is past.

Early corn may be planted between the rows of early peas and should not be planted until the ground is well warmed. The rows should be three feet apart and for the early sorts the hills may be as close as eighteen inches, but for the larger varieties, the hills should be three feet apart. Two of the best varieties for early planting are Early (Continued on page 19.)

**KIOWA COUNTY, COLORADO.** corn, wheat and alfalfa lands \$8 to \$15. Homestead relinquishments \$250 up. Folder and copy of the Homestead Laws sent free. A few 160-acre homestead tracts under prospective irrigation yet. THE WESTERN REALTY CO., Eads, Colo.

## EASTERN COLORADO

Farm lands near the new and rapidly growing town of Brandon, for \$10 to \$15 per acre. Great opportunities for home seeker and investor. Write for full information. C. D. BLANCHARD, Brandon, Colorado.

## EASTERN COLORADO LANDS.

Rich, fertile land, \$15 to \$20 per acre, on good terms. Irrigated lands that produce mammoth crops of sugar beets, alfalfa, wheat and oats, \$66 and up. New list and descriptive literature free. Thomas B. Ashlin, The Arkansas Valley Real Estate Man, Granada, Colo.

## LA PLATA COUNTY

Irrigated lands \$25 an acre and upward. In new country, about to be tapped by another railroad—the C. & S. Fruit, vegetables and all staples produce big crops. Price lists and large pamphlet free.

BOYLE REALTY CO., Durango, Colo.

## TEXAS LAND

## SHALLOW WATER BELT

Of the famous South Plains of Texas, where we can sell you good land, near schools, churches, markets and railroads for \$14 an acre and up. Write for our free descriptive circular. JONES-MURPHY LAND CO., Plainview, Texas.

**FOR FREE INFORMATION** about Panhandle of Texas and Western Oklahoma lands at \$8 to \$20 an acre, write to or call on J. A. WILLIS & CO., Higgins, Texas.

**Dalhart, Texas** is where we are located and we have some land bargains for the buyer. Write for our free, handsomely illustrated book, or come to Dalhart and let us show you a country without a fault.

J. N. JOHNSON LAND COMPANY, Dalhart, Texas.

## A TEXAS BARGAIN

Three section ranch, all tillable; 300 a. in cultivation, 500 a. alfalfa land; no draw; 5 room house, good barn, well and mill; 7 mi. county seat; \$19; 1-3 cash, bal. 1 to 6 years 6 per cent.

F. B. GOULDY, Plainview, Texas.

A FORTUNE IN  
40 ACRES

An irrigated forty acres in the Lower Pecos River Valley of Texas will provide a fortune for any family as well as a model home, in an ideal, all the year around climate. It will pay 10¢ per cent annually on present cost of land, including water rights. If interested, write at once to

## THE HEATH COMPANY

GENERAL AGENTS,  
109 West Seventh St., Topeka, Kan.

## MISSOURI LAND

**IMPROVED** corn, clover and bluegrass farms 48 miles south Kansas City. \$50 to \$75 per acre. Jot M. Wilson & Son, Harrisonville, Mo.

## MISSOURI FARMS.

For sale or exchange in Morgan county, where corn, clover and bluegrass grow to perfection. Prices from \$10 to \$65 per acre, on liberal terms. Write for county map and list, both free.

CREWSON & HARRISON, Versailles, Mo.

## MISSOURI FARMS.

Well improved farms in best farming section of Missouri, \$50 up. Ranches \$10 to \$25. Natural home of corn, clover and bluegrass. Abundance of pure spring water. Descriptive price list free.

J. H. FREDERICK, Cole Camp, Benton Co., Missouri.

## 120 ACRE FARM

Of deep black loam soil, surface gently rolling, 8 room house, 40x40 barn, good out-buildings, 3 wells, windmill, near church, school and market, buildings valued at \$4000, good neighborhood, and all well located. Price \$55 per acre. See or write Minter & Winn, Kirksville, Mo.

Also 355 acres of unimproved land except that there is good fencing and about 160 to 175 acres in cultivation in corn and clover this year. Growing 80 bu. to acre. Bargain at \$37.50 per acre. In Adair county, Mo., 2 miles from Kirksville, Mo.

CORN, CLOVER, BLUEGRASS—BEST  
IMPROVED FARMS IN MISSOURI.

640	.....	\$55.00
340	.....	45.00
260	.....	60.00
320	.....	60.00
320	.....	65.00
120	.....	65.00
160	.....	60.00
80	.....	60.00
210	.....	45.00

For full particulars, terms, etc., address J. P. HART & CO., Butler, Mo.

## FOR SALE

Good corn, wheat and clover farms in Bates Co., Mo.

O. W. HESS, Butler, Mo.

**BATES COUNTY** wheat, corn, bluegrass and clover farms, \$50 an acre and up. All well improved, money makers from the start. Write or see CANTERBURY & CO., Butler, Mo.

## KANSAS LAND.

**ANDERSON CO. PASTURE—160 A.** For Sale—160 acres pasture land in Anderson Co., Kan. All fenced; abundance of living water, 10 miles of Garnett, 3 miles of Selma. Price \$3500. Write the owner.

H. W. CHESTNUT, Centralia, Kansas.

## GOVE COUNTY SNAP.

480 acres in S. E. Gove Co., all smooth. 7 room frame house, frame barn; fenced and all under cultivation. A bargain if sold soon. Other cheap bargains in Kansas Wheat Belt. A. C. STEVENS, Randolph, Kan.

**NEOSHO COUNTY, KAN., BARGAIN.** 160 acres, 3 1/2 miles to good town, 6 room house, finished inside and out, nearly new, fine cistern and well, barn, corn crib granary, four poultry houses with good yards; farm all fenced and cross fenced, good orchard, apples, peaches and pears and other fruit; 75 acres in cultivation, 30 acres fine meadow, 10 acres tame grass hog pasture, 45 acres pasture. Lays nice and every foot can be plowed; good soil. Price \$40 per acre. Call on or address

A. P. ROSA, Galesburg, Kansas.

**CHASE COUNTY LAND—162 a.** 70 a. first class bottom under cultivation, 50 a. alfalfa, 30 a. hog tight, new 8 room house, good barn and other outbuildings and orchard, plenty running water, well and spring water, 3 1/2 miles of Cottonwood Falls, 1 mile school, R. F. D. and phone. Price \$10,000. A good second hand auto, model F Buick, in good repair, price \$500. Lists free. A. J. Kletz & Co., Cottonwood Falls, Kan.

## OKLAHOMA LAND

**IF YOU** want to buy Texas Panhandle or Western Oklahoma lands at lowest prices on best terms, write or see

ALLISON-CHUBBY CO., Texoma, Texas Co., Okla.

**WELL IMPROVED** bottom farm of 584 acres on Grand River, six miles of railroad town. This is one of the best farms in Oklahoma. No overflow. No trade. Price \$50 per acre. Write

J. T. HAGAN & CO., Vinita, Okla.

**125 ACRES IN WHEAT.** Fine half section, 7 miles of Medford, 6 miles of railroad town, 250 acres in cultivation, 35 a. pasture, fenced hog tight, 30 a. stock pasture all fenced, 2 sets buildings, good water, orchards, 2 miles to school, good land. Price \$15,000 for immediate possession. Terms to suit.

BATTEN REALTY CO., Medford, Oklahoma.

**EASTERN OKLAHOMA CORN LANDS.** Write for our illustrated booklet, state map and price list of our line river bottom and prairie farms. Big crops of corn, oats, alfalfa, wheat, cotton, etc., every year.

H. B. BEARD & CO., American Nat. Bank Bldg., Muskogee, Okla.

**EASTERN OKLAHOMA.** Improved farm, 100 acres, good, new house, half section of unimproved land, very fine. Several other good bargains. Write me if you want to know about Eastern Oklahoma. T. C. BOWLING, Owner, Pryor Creek, Okla.

**INDIAN LANDS FOR SALE.** 300 choice farms in N. M. Oklahoma. Low prices and easy terms. Write for map and price list.

LEAVITT LAND COMPANY, Vinita, Oklahoma.

Agents wanted.

**POCKET MAP OF OKLAHOMA FREE** to anyone sending us the address of five farmers who expect to change their location. Caddo County Farm Bargains.

BALDWIN & GIBBS CO., Amarillo, Oklahoma.

## A FEW BARGAINS NEAR WAGONER, OKLAHOMA.

200 acres, 5 miles from town, good new 5-room house and barn, 60x80, all tillable. Price \$35 per acre. 40 acres, 1/2 mile from Wagoner. All smooth, fine land, every acre tillable. Price \$21.00 per acre. Write

W. H. LAWRENCE, The Land Man, Wagoner, Okla.

## COLORADO LAND

**DO YOU OWN YOUR OWN HOME?** If not, why not? We can get you a good home cheap. Eastern Colorado offers great opportunities to you. We have many choice tracts of land, in rain belt, at from \$10 to \$30 per acre, some improved. Wheat, corn, oats, barley, rye and potatoes make large yields. Write us for descriptions and price lists.

VANDERHOFF & McDONALD, Otis, Colorado.

**CHOICE** unimproved 150 acres 2 1/2 mi. out \$8 per a. S. H. Smith, Sheridan Lake, Colo.

**YUMA COUNTY, COLORADO.** lands that raise big crops of all staples, \$10 to \$15 per acre. Good opportunities for homesteaders and investors. I own a few quarters which I will sell cheap.

A. L. KISSENGER, U. S. Commissioner, Yuma, Colorado.

8,000 acres choice land at \$1,200 per qu. 1 or all. 500 acres imp., good house and fenced, 120 a. broke. Rice \$20 per a.; will take \$2,000 in trade and carry \$4,000 back on farm. We have cheap relinquishments. Write us. The Akron Land Co. (Inc.), Akron, Colo.

**FOR SALE—COLORADO.** The old Studebaker ranch, Greeley, Colo., now being sold in farms of 40 acres and upwards; fine land; best of water rights, new improvements; prices right; church and schools convenient; good roads, and near market. Terms: One-fourth cash, balance ten annual payments. Interest 6 per cent. Come and locate in the best county in Colorado, or write

L. C. STOW, Greeley, Colorado.



# FRANK IAMS'

new importation of draft stallions and mares arrived October 23, 1910, by "Iams' own special train" of "8 express cars." They are "business propositions," that "jar the cherries" on a "wide-awake" "horseman's hat." Iams' "Peaches and Cream" stallions and mares are "eye-openers." They are "diamonds," sold "at fifty cents on the dollar." They are "winners" and "sons of winners," having won "eighty prizes and medals" at Paris and Brussels and leading European horse shows. Iams makes buyers

## "SIT UP AND TAKE NOTICE"

"Ikey Boys," get into Iams' "money-saving game." Buy a stallion and mare today—save \$300.00. Iams "tickles" buyers with "Rippers" at "Let Live Prices." Owing to bad crops, panic—Iams' cash, his 27 years' successful business. He bought and sells better horses cheaper than ever. Mamma, Iams is a "hot advertiser," but, "he has the goods" and sells horses at his barns only. Buyers get the "middlemen's profits" at Iams'. Iams has

## 160-- PERCHERONS AND BELGIANS --160



two to six years old, weighing 1,700 to 2,500 pounds; 90 per cent blacks, 50 per cent ton stallions. All registered and branded. He sells "toppers" at \$1,000 and \$1,400 (few higher), mares \$700 to \$1,000, so good they need not be "peddled" or put on the "auction block" to be sold. Iams' "selling clothes" fit all buyers. No man with money or bankable notes gets away from Iams. He buys, owns and sells more stallions than any man in the United States; saves thousands of dollars to stallion buyers. He is not in the stallion trust. Iams places \$1,500 insurance.

**SAVED AT \$1000 IAMS' \$1000**

Ikey, what "a graft" these stallion salesmen" are working on the farmer, selling fourth-rate stallions at \$2,000 and \$5,000! Mr. Buyer, see Iams' stallions yourself. Take no stallion salesman's word. "Iams has the goods you read about." His establishment is worth going 2,000 miles to see. Iams' competitors "holler." He is knocking "high prices" out of the Xmas tree. Iams saws wood, "butts in," sells more stallions each year. He makes every statement good. Big Bill, buy a stallion of Iams. His \$1200 stallions are much better than our neighbors paid those Ohio men \$4,000 for. Then I can wear diamonds. Iams speaks the languages, buys direct from breeders, pays no buyers, salesmen or interpreters; has no two to ten men as partners to share profits with. Iams guarantees to sell you a better stallion at \$1,000 to \$1,500 than are sold to stock companies at \$2,500 to \$5,000 by slick salesmen, or pay you \$500 for your trouble, you the judge. Iams pays horses' freight and buyers' fare; gives 60 per cent breeding guarantee. Iams' guarantee is backed by one-half million dollars. Write for million dollar Horse Catalog.

REFERENCES: ST. PAUL STATE BANK AND CITIZENS' NATIONAL BANK, FIRST NATIONAL BANK, OMAHA.

ST. PAUL - - - NEBRASKA

## INTERNATIONAL LIVE STOCK EXPOSITION

November 26th to December 3rd

International Horse Show of Chicago

November 22nd to November 26th

Union Stock Yards, Chicago

MANY NEW FEATURES      NUMEROUS NEW ATTRACTIONS  
GREATER AND BETTER THAN EVER

THIRTY NATIONAL LIVE STOCK ASSOCIATION CONVENTIONS.

A SEASON OF ENTERTAINMENT AND A TRIP TO CHICAGO  
DAILY AUCTION SALES OF PURE BRED LIVE STOCK

TUESDAY, NOV. 29, 12:30 P. M.

100 choice Shetland ponies. For catalog write sale committee: Chas. E. Bunn, chairman, Peoria, Ill.; A. G. Lupton, Hartford City, Ind.; or T. S. Simpson, Aurora, Ill.

WEDNESDAY, NOV. 30, 1 P. M.

50 choice Aberdeen-Angus. For catalog, write Chas. Gray, Sec'y, American Aberdeen-Angus Ass'n, U. S. Yards, Chicago.

TUESDAY, NOV. 29, 1 P. M., RAMBOUILLET SHEEP SALE  
For catalog, write Dwight Lincoln, Sec'y, Milford Center, Ohio.

**LOWEST RATES ON ALL RAILROADS**

### PERCHERON IMPORTING CO.

At the four best shows in the West we won:  
12 times champion stallion any age.  
29 times first in stallion classes.  
6 times champion group of five stallions.  
Champion Percheron stallion at Inter-State and Missouri State Fair.  
Champion Shire Kansas and Missouri State Fairs.  
Champion Belgian Kansas, Missouri and American Royal.  
All our horses are imported. We sell as low as anyone on earth, quality considered.  
Our guarantee and insurance are the best.

PERCHERON IMPORTING CO., South St. Joseph, Mo.

### SKOOG, REED & DE COW

Our first importation arrived on October 22, with the best we could buy in the old countries. We have our barns full of imported and home-bred Percheron, Belgian and Shire Stallions and Mares from 1 to 6 years old with plenty of size and quality. We have 2-year old stallions weighing a ton or better, and we are pricing them at figures that cannot help but interest anyone contemplating the purchase of stallions or mares. YOU PAY NO AUCTIONEERS' OR HORSE COMMISSIONER when you buy from us. Barns located so we can show horses at any time between trains. WE GIVE A 50 PER CENT GUARANTEE WITH EVERY HORSE.

SKOOG, REED & DE COW,

Holdredge, Nebraska.



## ROBISON'S PERCHERONS

For sale now, 100 head of stallions, mares and colts, of all ages. All stock recorded in Percheron Society of America.

ADDRESS BOX C,  
J. C. ROBISON, Towanda, Kan.

IMPORTERS AND BREEDERS.

## Percherons Shires & Belgians

75-HEAD MARES AND STALLIONS-75

We won more prizes at Kansas State Fair than any one exhibitor, which proves the quality of our horses. Just one word with you, Mr. Buyer: If you will come and inspect our horses and if you don't say that we have as good a bunch as you ever inspected, and our prices the lowest, considering quality, we will be glad to pay your expenses. Write or come and see us before buying elsewhere, for we will save you money.

L. R. WILEY & SONS  
ELMDALE, CHASE CO., KANSAS.



## Limestone Valley Farm

—Headquarters for high class jacks and jennets. No public sale 1911, but have a barn full of good jacks and a pasture full of good jennets at private sale. Every animal a good one, fully guaranteed and well worth the price.

COME AND SEE US.  
L. M. MONSEES & SONS,  
Smithton, Mo., Pettis Co.

## DUNHAMS' PERCHERONS

Fourth importation for 1910 arrived August 4th. Our present lot, we believe, equals or surpasses any we have heretofore collected. More horse of bone, size and first-class quality than ever. Numerous important prize winners. Write for catalogue.

W. S. J. B. & B. DUNHAM, Wayne, Illinois.



## W. H. RICHARDS, Importer

A car load of extra good 2 and 3-year-old Belgian and Percheron Stallions just arrived, August 17th. Attractive prices will be given on them now to buyers so they can make a fall season.

Barns only four blocks from A. T. & S. F. depot.

EMPORIA, KANSAS



## LAFAYETTE COUNTY JACK FARM

ONE MILE FROM TOWN.

Two to five years old, my own breeding, for sale at private treaty.

Safe in foal to Dr. McCord. My prices will move them.

In my March sale Jacks sold up to \$1,625. In my present offering are many that are better. I cordially invite Jack buyers to come and see this offering or write me for further particulars and prices.

W. J. FINLEY, Higginsville, Mo.

## VALLEY SPRINGS PERCHERONS

IMPORTED AND HOME-BRED STALLIONS AND MARES.

The big, rugged kind, with heavy bones, fine style and good action. No better blood lines in America. Black Kentucky Jacks and Jennets, with size and quality. Catalogues for my 13th annual sale will be ready November 20, 1910. Sale December 15, 1910. You may have it for the asking.

HEBRON, NEBRASKA.

O. P. HENDERSHOT,

## EIGHTEEN REGISTERED KENTUCKY MAMMOTH JACKS

We are going to ship eighteen of the biggest and best Jacks to Kansas that we have ever shipped in the past seven years, about December 1. We will locate in Wichita or some other good town within a hundred miles. All of these Jacks but four were bred and grown on our Lincoln county farm. They are from 15 to 16 hands, 2 to 5 years old. Nobody has ever seen as good a load of workers. Write for circular or come to see them when they arrive.

J. F. COOK & CO.,

LEXINGTON, KENTUCKY.



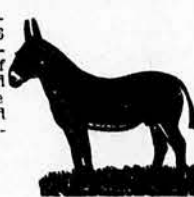
## Percherons, Belgians and Shires

Also Shetland Ponies  
Will have a good  
importation of stallions

of the breeds mentioned Jan. 1. Now offering special bargains in mares to make room. Call on or write Joseph M. Nolan, Paola, Kan., 40 miles south of K. C. Please mention the Kansas Farmer.

When writing advertisers please mention KANSAS FARMER.

Choice registered Mammoth Jacks, 15 to 16 hands high; good individuals with plenty of bone and vigor and ready servers. Also one registered two year old black Percheron stallion.



BRUCE SAUNDERS,  
Holtton, Jackson Co.,  
Kansas.



# High Class Poland China Sale

## Garnett Kansas, Saturday, December 3, 1910

19 Choice Spring Glits  
6 Extra Good Spring Boars  
10 Brood Sows--

part of them bred to my herd boar Kansas Meddler by Meddler 2d and Proud Perfection 3d. Sale will be held right in town. This is the best lot I have ever offered for sale and I give special invitation to all farmers and breeders to attend. I guarantee a good offering. Sows are of the best blood lines by Perfection E. L., Keep Ahead, Bandmaster, Parnell and other great sires. My catalogues are ready to mail. Send your name at once.

Auctioneers--J. W. SPARKS  
L. H. TJARDEN  
J. B. RUDDISIL

O. W. DEVINE, Fieldman for Kansas Farmer

**J. M. COLLINS,**  
Garnett, Kansas

## C. W. LAMER'S

Second Importation of 1910

## Percheron Stallions and Mares

My second importation this year of Percheron Stallions and Mares will arrive in New York about December 10th.

I now have thirty Percheron and Belgian Stallions in my stables, from two to four years old and weighing from 1,700 to 2,100 pounds. In order to make room for my coming importation I am now selling, at reduced prices, some of the best horses that were ever offered for the money.

ON THURSDAY, DECEMBER 22, 1910, I WILL SELL AT AUCTION 50 Imported PERCHERON MARES (2 to 5 years old) and 10 Imported (yearling) STALLIONS.

**C. W. LAMER, Salina, Kansas**

## Dispersion Stock Sale

At Farm Adjoining

Junction City, Kansas

**Wednesday, November 30, 1910**

25 good mules, 16 of them broke to work, remainder two year olds and weanlings.

One pair grade Percheron mares, one spring Percheron colt, extra good.

3 driving mares, all of them in foal to Wilkhurst.

2 saddle ponies.

70 cattle, comprising a milk herd of 20 cows, 2 registered Shorthorn cows, 2 pure Shorthorn bull calves, remainder milk stock one, two and three years old.

40 brood sows and glits, part of them registered, and all pure bred.

300 pure Plymouth Rock pullets.

Jas. T. McCulloch, Auct.

**C. W. STRICKLAND,**  
Junction City, Kansas



## PERCHERON MARES

Weanlings to 4 years old in matched teams, including in the Kansas State Fair and American Royal champions, all registered or can be registered in Percheron Society of America. Good clean lot of heavy bone mares and bred to the champion stallion of Kansas State Fair at Hutchinson, 1910. Come and see me.

F. D. WEBB, STERLING, KAN.

## 75 - IMPORTED STALLIONS AND MARES - 75



MR. HORSE BUYER, can you afford to buy a stallion without visiting this establishment and inspecting our horses? We claim without successful contradiction that we have the greatest importing establishment in America; more good horses to select from than can be found in any other stables, and we can sell you a better horse for \$1,000 to \$1,400 and give you a much greater number of good horses to select from than you can find elsewhere. A visit to our barns will prove this statement. A first class breeding stallion, one that gets a large per cent of good colts, is a gold mine. When you buy a horse of our firm, that is the kind of a horse you get. YOU CANNOT FIND A CUSTOMER OF OURS IN THE UNITED STATES WHO IS NOT PLEASED. We have been importing horses for thirty years and

our business has continued to grow year by year, NOT ON ACCOUNT OF HOT ADVERTISING, but because we have always given our customers a square deal and sold them horses that made them money. We have 75 head of IMPORTED PERCHERON AND SHIRE STALLIONS AND MARES now in our stables and if you are looking for the money making kind at right prices, come and see us. Write for our catalog.

WATSON, WOODS BROS. & KELLY CO.,

Lincoln, Nebr.

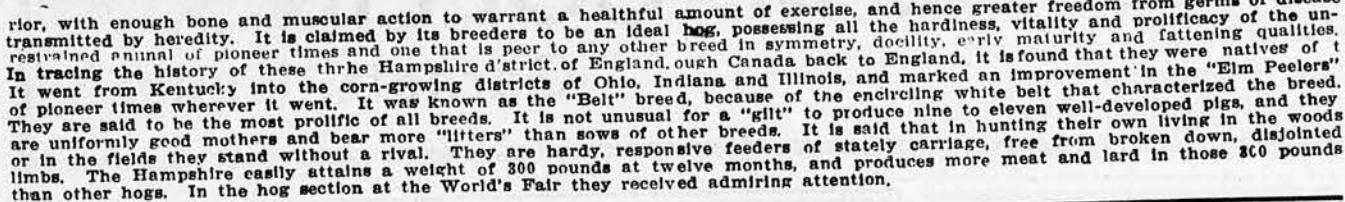
## FIELD NOTES.

Evergreen Home Farm of Lathrop, Mo., is one of the old established and leading thoroughbred stock farms in Missouri. Many years ago Mr. J. H. Walker, owner and proprietor of this noted farm, commenced breeding thoroughbred Shorthorn cattle. To commence with, Mr. Walker purchased the very best Shorthorn cattle that money would buy, and since that time has kept at the head of his herd the best bred animals to be obtained regardless of price, and at the present time he is the owner of one of the very best herds in the country. Mr. Walker makes a specialty of the hornless bred Shorthorns and also breeds for milk as well as beef, and has a large number of extra large beefy cows in his herd with records of from 50 to 85 pounds of milk per day, with an average milk test of 4.2. After his Shorthorn herd was thoroughly established, Mr. Walker added a choice herd of Berkshire hogs and later Oxforddown sheep. In building up the two latter herds Mr. Walker adhered strictly to the principle of buying nothing but the best, and his Berkshire hog and Oxforddown sheep herds are second to none in the country. It is well worth a trip to Evergreen Home Farm to inspect Mr. Walker's splendid herds, and breeders of thoroughbred stock will find much on this farm to interest them, and if interested in any of the breeds named will find a number of fine young individuals that are for sale at very reasonable prices, the quality of the stock considered. Another of Mr. Walker's specialties is Bourbon Red turkeys and he has a number of choice pairs now ready for sale. He is also offering 35 bred Oxforddown ewes at a bargain if sold altogether and taken at once.

## S. A. Bugg's Poland Chinas.

S. A. Bugg of Hamilton, Mo., is one of Missouri's veteran Poland China breeders, who has by a very close study of the business for the past 25 years, succeeded in building up a herd with a reputation second to none in Missouri and with few equals in the country. One of the boars for next year's breeding in this famous herd is King's Best, the pig that topped Pfander's sale at Clarinda, Iowa, at \$180. Mr. Pfander says he is the best one that he has bred in 30 years, and the best that the 1200-pound Lang King ever sired. The other boar will be named What's Wanted, a February pig weighing 350 pounds the 22d day of October and one of the best that Thomas F. Walker ever bred. He was bought on an unlimited bid sent to H. C. Duncan, who landed him at \$160. Mr. Bugg will pay \$600 in cash for two better prospects in the United States. Grand Look 2d, a yearling, is another of Mr. Bugg's herd boars. Grand Look 2d is a yearling boar sired by the noted Grand Look, dam by old Expansion. This boar has made good as a producer of the large, melow kind and is a 600-pound yearling with great vitality. The sows of this herd are by Big Hadley, Grand Look, Expansion, Washburn's Perfection, Top Notcher and other noted boars. This breeding is no experiment, but is the kind that is topping the best sales in the land. Mr. Bugg has a large herd, ranging from 150 to 200 head the year round, and he can supply as good as grows at any time as cheap as any breeder, considering the quality. He is noted as a square dealer and not a hot air merchant, pays the cash for what he buys and gets the cash for what he sells. He is ready to compare prices and quality with the best in (Continued on page 20.)





(Continued from page 19.)

the land at any time. He is not an amateur in the business and has learned a few things in 25 years' experience as a breeder. He has issued a neat booklet entitled, "Poiners in Hog Raising," which tells all the breeding of his herd, how he cares for them, how he treats customers, how he does them, how he treats customers, how he does to it. It is free for the asking. Write him for prices on anything in Poland, the best that grows.

We wish to call our readers' attention to the Poland China sale ad of J. M. Collins at Garnett, Kan., Saturday, Dec. 3, 1910. Mr. Collins will sell 19 choice spring gilts, 6 extra good spring boars and 10 head of valuable brood sows. Several of the brood sows will be bred to Kansas Meddler and some very topdy individuals and guarantees a good offering. If you can arrange to attend this sale it might pay you. If you can not come send a bid to auctioneers or O. W. Devine, representing the Kansas Farmer. For catalogs write J. M. Collins, Garnett, Kan.

Nothing is appreciated more in the hot weather of summer than a supply of ice for household use. In January ice is very common and little thought of. In July it is thought of every day. Every farmer who possibly can get it ought to plan to put up in January some 300 or 400 cakes of ice. It requires but little expense for a suitable keeping place, and does not take long to put up such a quantity. The modern ice plow and other tools make the work easy and the time short for doing it. Every one who reads this can get full information free as to how best to handle and store ice. The Gifford-Wood Co., Hudson, N. Y., will gladly send their books, "How to Cut Ice" and "How to Handle Ice" free to all who will write to ask for them. This firm has a branch house at 123 North Jefferson St., Chicago, Ill., from which place any and all kinds of the best ice tools can be quickly and economically supplied. When writing for their ice books, kindly mention this notice in Kansas Farmer.

While the average on the above sale was not high, it was very satisfactory to Mr. Albrecht and the buyers surely ought to be pleased, as they secured some extra good stuff at bargain prices. Messrs. Albrecht put out some of the best individuals the writer has seen this year and they will sure speak well for them wherever they are seen. Fifty-two head averaged \$22. Representative sales follow:

1.	N. N. Norton, Bellaire, Kan.....	\$23.00
2.	Merwin Hoobs, Smith Center.....	20.00
3.	J. C. Starr, Vinita, Okla.....	30.00
4.	O. B. Norton, Bellaire, Kan.....	25.00
5.	E. Vinson, Bellaire, Kan.....	22.00
6.	R. Wells, Smith Center, Kan.....	40.00
7.	Al Kersey, Smith Center, Kan.....	35.00
8.	Wm. Zion, Smith Center.....	35.00
9.	Mart. Hall, Bellaire.....	33.00
10.	W. C. Whitney, Agra, Kan.....	21.00
11.	Wade Trivett, Smith Center.....	20.00
12.	W. H. Rehmet, Smith Center.....	35.00
13.	Fred Beckman, Smith Center.....	21.00
17.	Mart Hall, Bellaire, Kan.....	22.00
21.	Henry Lewis, Smith Center.....	17.50
33.	H. D. Hughes, Smith Center.....	22.50
40.	O. R. Norton, Bellaire.....	20.00
41.	John Williams, Smith Center.....	29.00
44.	J. B. Scott, Kirwin, Kan.....	27.50
49.	Merrill Colby, Smith Center.....	17.50
50.	C. G. Anderson, Athol, Kan.....	20.50
52.	J. B. Scott, Kirwin, Kan.....	39.00

The Mrs. S. B. Thomas dispersion sale held at St. Joseph Mo., was well attended by buyers from many different states. The large number of good ones going to Kansas emphasizes the growing demand for Jerseys in this state. Night came on before the sale was finished and the lights

were turned on, but the crowd never lost interest for a single moment. Rolla Oliver of St. Joseph topped the female offering, paying \$325 for the great cow, Guenon's Lad's Lost Time. The herd bull, Fern's Lad of St. Martin, a son of Golden Fern's Lad, sold for \$1,050, this being the top price paid for a bull. Two bulls sold for \$1,140, average \$570; 59 cows and heifers sold for \$8,865; average \$147.20; 26 calves, both sexes, sold for \$1,665; average \$64.03; 87 head sold for \$11,490; average \$132.06. A list of representative sales follow:

1.	Bull, C. W. Thompson, Woodlawn, Cal.	\$1050
2.	Bull, George S. Redhead, Des Moines, Ia.	90
3.	Cow, Andrews & Thompson, Trenton, Mo.	180
4.	Cow, J. N. McWilliams, Chillicothe, Mo.	130
5.	Cow, E. P. Eddy, Mound City, Mo.	110
6.	Cow, T. A. Jennings, Junction City, Kan.	160
	Heifer calf, T. A. Jennings.	160
7.	Cow, T. A. Jennings.	160
	Heifer calf, Knox & Swigert, LaHarpe, Kan.	40
8.	Cow, Wm. Bruns, Concordia, Mo.	150
	Heifer calf, L. B. Stanley, Shelbyville, Ky.	30
9.	Cow, G. B. Donovan, Rockport, Mo.	280
	Bull calf, S. D. Wharton, Lawson, Mo.	70
10.	Cow, T. A. Jennings.	170
11.	Cow, T. A. Jennings.	130
12.	Cow, G. B. Donovan.	290
	Heifer calf, D. M. Shawhan, Lee's Summit, Mo.	130
14.	Cow, Word Sisters, Stewartsville, Mo.	10
15.	Cow, A. T. Smith, Elwood, Kan.	170
	Bull calf, R. F. Ritchie, Fausett, Mo.	30
16.	Cow, J. M. Taylor.	7
17.	Cow, John A. Wallace, Canyon City, Tex.	30
	Bull calf, Robert I. Young, St. Joe, Mo.	3
18.	Cow, W. H. Bruns.	180
19.	Cow, Rolla Oliver, St. Joe, Mo.	80
	Heifer calf, D. M. Shawhan.	160
20.	CoCw, W. H. Bruns.	160
21.	Cow, Rolla Oliver.	80
	Bull calf, Chester Thomas, Waterville, Kan.	0
22.	Cow, Rolla Oliver.	20
23.	Cow, Chester Thomas.	10
	Bull calf, C. D. Fisher, Hamlin, Kan.	10
24.	Cow, F. J. Shawhan.	10
26.	Cow, J. M. Taylor.	10
	Heifer calf, Robert I. Young.	0
27.	Cow, Chester Thomas.	10
28.	Cow, W. H. Bruns.	10
30.	Cow, Andrews & Thompson.	10
	Heifer calf, D. M. Shawhan.	10
31.	Cow, L. B. Stanley.	10
32.	Cow, O. B. Knight, St. Joe.	10
33.	Cow, G. B. Donovan.	20
36.	Cow, R. E. Richers, Fausett, Mo.	10
	Heifer calf, G. B. Donovan.	10
37.	Cow, W. H. Bruns.	10
	Heifer calf, G. B. Donovan.	10
38.	Cow, C. H. Rickey, Clarence, Mo.	10
	Heifer calf, G. B. Donovan.	10
39.	Heifer, E. P. Eddy.	10
40.	Cow, R. E. Maupin, Plattsburg, Mo.	10
41.	Cow, T. A. Jennings.	10
44.	Cow, A. G. Knight.	10
	Heifer calf, Knight.	10
46.	Cow, S. D. Wharton.	10
49.	Cow, Smith & Roberts, Beatrice, Neb.	10
	Heifer calf, Clyde Ott, Helena, Mo.	10
52.	Heifer, Chester Thomas.	10
58.	Cow, C. H. Riky.	10
60.	Heifer, Clyde Ott.	10
62.	Cow, C. H. Rickey.	10

The Hon. J. H. Skinner, dean of agriculture, Purdue University, in speaking of the Chicago Stock Show, expressed himself as follows: "The International Live Stock Exposition, which will this year be held from

I have been a breeder of the Hampshire hog for the past 12 years, and have never shipped a load of them on the market that did not top the market, and in some instances as much as 50c per cwt. Have breeding stock for sale.

W. F. DAVIS.

The Hampshire hog was an original importation in Pennsylvania about 1830. In 1835, Major Joe Garnet, of Kentucky, learning of their good points, and believing that they had marked advantage over other hogs which he was extensively raising, sent an agent to Pennsylvania and purchased fifteen of these hogs. They were driven on foot to Pittsburg and transported down the Ohio River on a steamboat. He was not disappointed in the characteristics which he believed them to possess. They are distinguished for hardness of constitution and proper development of the vital organs and free from genital or hereditary tendencies to disease. It is claimed for them unusual constitutional vigor, with organs of digestion, circulation and respiration superior to those of any other breed.

Nov. 26 to Dec. 3, offers one of the greatest opportunities that come to farmers. It is one of the best educators in America. The standards set by the International Live Stock Show are the very best and no farmer who attends this show can go away without carrying home to his business a broader conception of his work than he had before attending this great show. Every young farmer should avail himself of the opportunity to study types and breeds of live stock in connection with the International. The opportunity to study car lots of feeders and fat cattle and sheep is in itself worth more than the cost of attending the show. Farmers who inform themselves concerning markets and marketing live stock will find that such information will lead to greater success and larger profit. There is no other institution of more value than the International Live Stock Show to the farmers of the corn belt."

Six 2-year-old imported Percheron fillies were sold this week by the firm of Watson, Woods Bros. & Kelly Company of Lincoln, Neb., to Thomas Ashton, J. W. Marcum and Thomas Stamm, of Hagler, Neb. These mares were all perfectly matched, weighed on an average of 1,800 pounds each, and five of them showed safe in foal. They were selected by the veteran judge, Joseph Watson, from the oldest and most noted breeders in the Perch, and the owners are certainly to be congratulated with the character of seed that they are obtaining for the foundation of their future herd. The firm of Watson, Woods Bros. & Kelly Co. make a specialty of handling nothing but good ones, and a visit to their importing establishment will convince the most skeptical of their buyer, Mr. Watson, cannot be excelled as a judge of horses. His thirty years' experience and the large number of horses annually purchased by Watson, Woods Bros. & Kelly Co. makes it possible for him to buy the good ones so that this firm can sell a strictly first class horse at a price that the average importer is asking for an ordinary horse, and still leave a fair margin of profit. Read their ad and write for their catalog today.

W. A. Prewitt sold one of the best consignments of Poland Chinas at his farm near Ashersville, Kan., on Nov. 16, that has been driven through a sale ring this year. The get of his good herd boar, Expansion Chief, were especially in demand and there was a reason—they were exceptionally good. More will be heard from this herd and of this herd boar later. List of sales follow:

1.	J. E. Smith, Stockton, Kan.....	\$30.00.
2.	Geo. Morehead, Glen Elder.....	42.00.
3.	H. W. Sales, Simpson, Kan.....	47.00.
4.	E. P. Gifford, Beloit, Kan.....	31.00.
5.	Chas. Johnson, Solomon Rapids..	47.50.
6.	L. Stille, Beloit, Kan.....	39.00.
8.	W. C. Bernuking, Simpson.....	25.00.
10.	John Erner, Beloit.....	26.00.
11.	L. Z. Anderson, Glen Elder.....	21.50.
12.	Same.....	21.50.
14.	Harry Graham, Beloit.....	35.00.
15.	Roy Birt, Beloit.....	49.00.
16.	J. L. Anderson, Glen Elder.....	30.00.
17.	George Leonard, Beloit.....	26.00.
18.	Dan Gise, Beloit.....	34.00.
19.	L. C. Walbridge, Russell, Kan..	45.00.
20.	Chas. Pilcher, Glasco, Kan.....	35.00.
21.	Frank Douglass, Beloit, Kan..	22.00.
27.	R. D. Berg, Randall.....	24.00.
28.	J. A. Gifford, Beloit.....	26.00.
29.	Same.....	26.00.
31.	S. P. Pierson, Asherville.....	20.00.
32.	Mrs. Lillie Critchfield, Asherville	26.00.
33.	James Winn, Glen Elder.....	26.00.
35.	S. B. Young, Glasco.....	25.00.
38.	J. A. Gifford, Beloit.....	30.00.
40.	Wid Davidson, Simpson.....	43.00.
42.	W. T. Hammond, Portis, Kan..	25.00.
45.	J. A. Gifford.....	30.00.
46.	E. C. Logan, Beloit.....	32.50.
49.	J. M. Vernon, Simpson.....	20.00.
54.	Chas. Pilcher, Glasco.....	22.00.
55.	John Downey, Glasco.....	35.00.
56.	John Cuckenhush, Beloit.....	26.00.
59.	S. R. Young, Glasco.....	20.00.

(Continued on page 23.)

(Continued from page 17.)

Minnesota and White Cob Cory. Stowell's Evergreen and Country Gentleman are good later varieties and are general favorites wherever known. As a rule, a quart of corn costs from 25 to 50 cents per quart, and peas cost from 25 to 40 cents a quart. There are many good seedsmen. Any of the standard firms can be relied upon.

Much can be done in this season of the year in getting gardens into good condition. It should be given a good application of well rotted manure plowed or spaded very deeply, and if very dry, it would be a good plan to wet it in order that the action of the frost may be utilized in pulverizing the soil. If this is done before the ground freezes, as soon as the frost is out of the ground the work may begin, and only surface cultivation and smoothing will be required.

If it is your ambition to realize the greatest possible return from your ground, you can probably realize larger returns by planting with radishes, spinach, onions and lettuce. Follow this with corn or tomatoes, and by removing the corn as soon as the green ears are gathered, and spade the ground again and plant to lettuce, turnips or late radishes.

The success of all garden work depends upon the abundance of fertilizer, upon cultivation and plenty of water. The poor quality of your corn is probably due to the hot, dry weather and lack of moisture. For a small patch of ground as yours, after hot, dry weather occurs and while the corn is tasseling, the ground should be wet thoroughly, and sprinkle the foliage and tassels well in the evening.

Green beans are much more likely to succeed well than are the lima varieties and can usually be counted on for profitable returns.

If onion sets are planted and given good care, early bunch onions usually bring good prices. All of these require frequent cultivation with a hand hoe or wheel hoe or rake, and if the ground is heavy and sticky it must have considerable quantities of well rotted manure well worked into the soil. On some clay soils a load or two of sand would be a good investment. It should be applied before spading or plowing and well worked into the soil. Care must also be taken to work the ground just at the proper time, never when it is very wet and always just as it is becoming dry after a shower. The entire garden may be gone over with a wheel hoe or a hand hoe. Weeds must not be allowed to grow. If they are, it is a certain indication that the ground has been neglected when it should have been stirred to save the moisture. It is never a good plan to plow under corn stalks or tomato vines or large quantities of any matter that is not well decomposed. The rough matter had better be burned and the ashes plowed under, unless there is room for this to be piled up until they can decay. This, however, is not practical for city lots and coarse material should be burned. If it is plowed under it is much more difficult to get your seed bed firm.

Only well rotted manures should be applied on a garden that is to give the best results, and no soil can be expected to give good returns with garden crops unless considerable quantities of fertilizer are applied.

Your tract of land is approximately one-eighth of an acre and three good loads of well rotted manure would be only a moderate application for garden work. Five loads would be considered a fairly liberal allowance. If this is well worked into the soil in the fall the action of frost will be especially beneficial in pulverizing and fining the soil, and the ground will much more readily receive the water that may fall and that which melts from the snow at the end of the winter.—Albert Dickens, Horticulturist.

One of the policies of the extension department of the Agricultural College has been to advocate the holding of monthly farmers' institutes, and to suggest subjects for general discussion each month. There are about 300 farmers' institutes in the state, and the subject selected for the monthly meeting in November is the selection and care of the brood sow. Under this the following points are given: Selection of gilts; care of the sow before farrowing; care of the sow and litter; points to be considered in the selection of the sire; and mistakes in breeding.



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Every one a Black Mammoth 14 1/2 to 16 1/2 hands high. 2 to 7 years old. I will show you one of the best bunches you ever saw.  
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Lawson is 40 miles northeast of Kansas City.

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Up-to-date Poland China hogs. Write your wants.  
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One of the largest number of large bone and smooth Jacks in the West; 14 to over 16 hands high; prices reasonable. 40 miles west of K. C. on U. P. and Santa Fe Rys.  
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To close out breeding stock, will offer 2 registered Percheron stallions, 1 registered saddle stallion and 5 black mammoth Jacks of Mo. and Kentucky blood, from 2 to 6 years old; from 15 to 15.3; standard; registered. **J. E. PARK, Cameron, Mo.**

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from 10 to 14 months old. One roan, 9 reds, sired by show bulls and out of show cows. Must be sold to make room. Priced at \$75 to \$125. These are all good. I make steers out of my poor ones. Come at once. They will suit you.

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(Continued on page 28.)

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Boars, gilts and sows bred to the herd boars for sale.

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12 good, growthy Poland China boars for sale, from \$20 to \$30. Write me your wants. A. L. ALBRIGHT, Waterville, Kansas.

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SPRING MALES AND GILTS. Now is the time to buy your breeding stock while the best is yet unsold. My pigs are strong and thrifty; are well bred and have been fed with an eye to future usefulness. Write me now. Address C. H. TILLQUIST, Osborn, Kansas.

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SPRINGBANK DUROC JERSEYS. Headed by W. H.'s Col., first prize junior yearling boar Hutchinson State Fair, 1905, assisted by Chief Orion, third prize aged boar. Sow Sale—Ten tried sows by Chief Orion bred to W. H.'s Col. Come and see them. W. H. WILLIAMSON, Raymond, Kansas.

SAMUELSON BROS. DUROCS. Fifty spring boars for sale, the pick of 300 head of spring pigs, sired by 16 different sires; good, growthy fellows; heavy bone; the best of color; good quality. We can suit you in blood lines and quality. Our price right. Come and see or write us. Samuelson Bros., Cleburne, Kan.

R. & S. FARM 150 Spring Pigs, sired by King of Kant Be Beat No. 33322, and Golden Ruler No. 30555. Write your wants. Bred sow sale Feb. 3, 1911. RINEHART & SON, Smith Center, Kansas.

## PAGETT'S BIG SMOOTH DUROC JERSEYS

The A1 big boned, smooth easy feeding kind. Old enough and big enough for immediate service. FOR SALE AT \$35.00

and guaranteed worth the money. Younger hogs of the same quality for less money. Write your wants and send in your orders. I guarantee to please you. Plenty of hogs. P. H. PAGETT, The Hog Man, Beloit, Kansas

RIVER BEND HERD DUROCS. Headed by Fitch's Kant by Kant Be Beat and out of a son by Ohio Chief, one of the best individuals and breeders in the state. Let me know your wants. W. L. FITCH, Minneapolis, Kansas.

## DUROC SOWS and GILTS

DUROC SOWS AND GILTS. 20 choice fall yearling gilts for quick sale. 10 tried sows, at prices to move them. Will breed and hold them safe. Fall sale Nov. 4.

CHAPIN & NORDSTROM, Green, Kansas.

BRED SOWS, AUGUST FARROW. Duroc sows and gilts sired by Bell's Chief 4th and bred to richly bred boars. Will sell and ship when safe. FRANK VETISKA, Pawnee City, Neb.

JEWELL COUNTY HERD. Headed by Bonney K. 74075, all prominent blood lines represented. Fall sale Oct. 27. Sow Sale Feb. 1, 1911. W. E. MONASMIT, Formosa, Kansas.

## 25 Duroc Boars 25 for Sale

Big, strong, smooth fellows of Neb. Wonder and Col. breeding. Excellent individuals out of matured sows. CHESTER THOMAS, Waterville, Kansas.

25-SPRING DUROC BOARS-25 Only the tops of the 1910 crop. All sired by Helen's Wonder (a son of Red Wonder and Helen Blazes 21st) and S. D.'s Inventor (a son of Inventor). Many of these boars are out of May Boy sows. All of this is rich breeding and is combined with excellent individuality, and they are priced to sell. Also have for sale Shorthorn bulls by Captain Archer. J. F. STODDER, Burden, Cowley County, Kansas.



## W. F. DAVIS, Breeder of HAMPSHIRE HOGS

Herd headed by the champion boar PAT MALOY 1415. Breeding stock for sale, either sex. Address, W. F. DAVIS, SOUTH ST. JOSEPH, MO.

## HOGGETTE CURES AND PREVENTS SWINE PLAGUE

hog cholera. Money back proposition. Sold direct. Write for terms and particulars. UNGLE'S HOGGETTE CO., 129 No. 10th St., Lincoln, Neb.

FIELD NOTES.

The Searle Holsteins.

F. J. Searle, owner of the Sunflower herd of Holstein-Friesians at Oskaloosa, Kan., has but two young service bulls left for sale and those who are in the market for a high class bull should investigate. Both of these bulls were sired by King Walker, whose dam and grand dam each have over 30 pounds of butter to her credit, while their dams have 17.26 and 21.92 pounds, respectively, in a seven days' test. These bulls have plenty of A. R. O. breeding back of them and will be priced right. He also has a number of A. R. O. cows for sale. Write him.

Robison's Eleventh Annual Sale.

Fifty-four young stallions and mares average \$526.11.

The Whitewater Stock Farm, Towanda, Kan., presented to the crowd of anxious buyers on Thursday, Nov. 10, the usual good offering of draft horses, mostly young stallions and mares. The mares bred to Casino were much in demand and sold from \$100 to \$150 higher than those bred to other imported horses. No sensational or boom prices were recorded, but the list of sales show an even range of values and the total of sales was very satisfactory to Mr. Robison. The entire lot was clean and free from blemishes and every known defect was pointed out and explained to the buyers. Col. R. L. Harriman did the selling, assisted by Coles, Snyder, Fife and Arnold. Following is a list of sales.

STALLIONS.

No. 11—Harem, 3 years, sire Vigoureux, C. A. Stitz, Hope, Kan., \$915.

No. 12—Hans, 2 years, sire Keota Romer, J. H. Glenn, McAlester, Kan., \$530.

No. 13—Camelia, 5 years, sire Martin, W. H. Ritter, Colfax, Ill., \$1,000.

Lot 14—Blande, 2 years, sire Canotier, E. S. Harding, Cambridge, Neb., \$860.

No. 15—Fricoteur 2 years, sire Casino, Charles J. Scott, Jamesport, Mo., \$780.

No. 21—Earlen, 2 years, sire Lyceon, C. A. Stitz, Hope, Kan., \$750.

No. 30—Harshel, 3 years, sire Camus, C. M. Gates, Meade, Kan., \$760.

No. 31—Richard, 2 years, sire Casino, J. H. Tangeman, Newton, Kan., \$1,125.

No. 32—Robert, 2 years, sire Canotier, G. W. Overly, McCune, Kan., \$725.

No. 57—Rambler, 5 years, sire Condor, William Steele, Redfield, Kan., \$590.

No. 58—Jeremiah, 3 years, sire Jelin, J. L. Hunt, Eldorado, Kan., \$515.

MARES.

No. 1—Casina, 2 years, sire Casino, E. S. Harding, Cambridge, Neb., \$615.

No. 2—Anisette, 2 years, sire Francoeur, James B. Haley, Hope, Kan., \$440.

No. 5—Nadine, 6 years, sire Aride, J. H. Jackson, Enid, Okla., \$400.

No. 6—Maggie, 5 years, sire Saphir, J. H. Jackson, Enid, Okla., \$400.

Substitute for No. 7—Helen, Lee Bros., Harveyville, Kan., \$490.

No. 8—Mabel, 4 years, sire Beaudole, F. A. Hanna, Burlingame, Kan., \$325.

No. 10—Flora, 4 years, sire Pantin, J. H. Molgen, Newton, Kan., \$430.

No. 17—Emmerette, 4 years, sire Volage, D. McAllister, Sever, Kan., \$410.

No. 18—Jona, 3 years, sire Volage, F. F. Knox, Eldorado, Kan., \$330.

No. 19—Stabella, 5 years, sire Saphir, R. L. Lundy, Cambridge, Kan., \$605.

No. 20—Harriet, 4 years, sire Saphir, H. L. Harvey, Kincaid, Kan., \$350.

No. 23—Maid of Paris, 6 years, sire Paris, F. A. Hanna, Burlingame, Kan., \$390.

No. 24—Mahala, 5 years, sire Anide, Wm. Branson, Overbrook, Kan., \$550.

No. 25—Faistoma, 7 years, sire Aride, J. W. Robertson, Enid, Okla., \$750.

No. 26—Louella, 8 years, sire San Souci, C. F. Molzen, Newton, Kan., \$425.

No. 27—Esakridge Queen, 4 years, sire Boquet, F. A. Hanna, Burlingame, Kan., \$370.

No. 28—Musca, 3 years, sire Aride, F. A. Hanna, Burlingame, Kan., \$390.

No. 33—Hagerman, 4 years, sire Volage, Wm. Branson, Overbrook, Kan., \$530.

No. 34—Corine, 5 years, sire Aride, Harry Wilson, Miami, Tex., \$525.

No. 35—Rosaline, 2 years, sire Boar, Wm. Steele, Redfield, Kan., \$405.

No. 36—Cosette, 5 years, sire Brilliant, Howard Easton, Cambridge, Neb., \$425.

No. 37—Dove, 4 years, sire Coco R., Wm. Branson, Overbrook, Kan., \$645.

No. 38—Hattie, 3 years, sire Casino, B. C. Stutz, Utica, Kan., \$530.

No. 39—Deborah, 5 years, sire Saphir, Dr. Somes, Vincennes, Ind., \$300.

No. 40—Bourro, 8 years, sire Aride, J. W. Robertson, Enid, Okla., \$750.

No. 41—Finette, 3 years, sire Senegal, R. L. Lundy, Cambridge, Kan., \$645.

No. 43—Idalie, 2 years, sire Vigoureux, Wm. Branson, Overbrook, Kan., \$525.

No. 45—Paulinette, 8 years, sire Aride, D. H. Horning, Redfield, Kan., \$330.

No. 46—Lunette, 9 years, sire Salt Petre, D. H. Horning, Redfield, Kan., \$330.

No. 47—Ora, 4 years, sire Solferino, G. W. Overly, McCune, Kan., \$320.

No. 48—Malvina, 3 years, sire Volga, Wm. Branson, Overbrook, Kan., \$605.

No. 49—Mariquita, 2 years, sire Roseau, C. H. Wachholz, Larned, Kan., \$300.

No. 50—Tabita, 2 years, sire Lamy, T. C. Levior, Erie, Kan., \$385.

No. 51—Laura, 2 years, sire Roseau, Geo. Simmons, Garber, Okla., \$400.

No. 52—Rhoda, 2 years, sire Lamy, W. H. Ritter, Colfax, Ill., \$400.

No. 53—Maxine, 2 years, sire Black Lad, James Haley, Hope, Kan., \$415.

No. 54—Dorcas, 2 years, sire Lamy, Ike Martin, Toleville, Kan., \$330.

No. 55—Rosalia, 2 years, sire Lamy, B. C. Stutz, Utica, Kan., \$410.

No. 56—Lola, 2 years, sire Roseau, H. L. Harvey, Kincaid, Kan., \$335.

No. 59—Belle, 5 years, sire Boer, E. C. Stutz, Utica, Kan., \$420.

No. 60—Ginger, 7 years, sire Boer, E. C. Stutz, Utica, Kan., \$420.

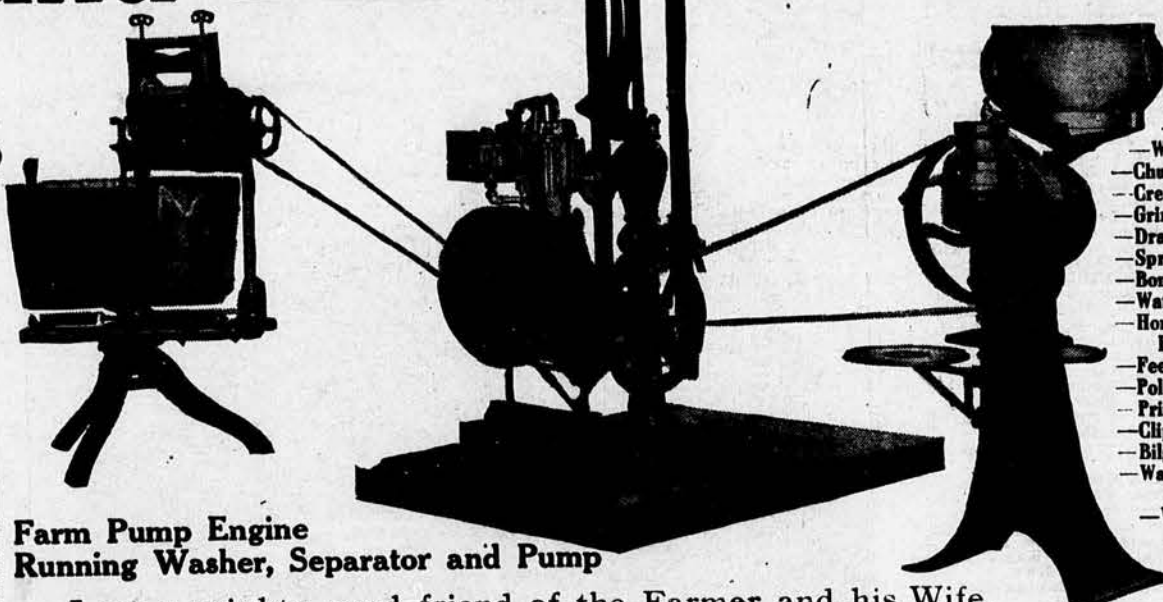
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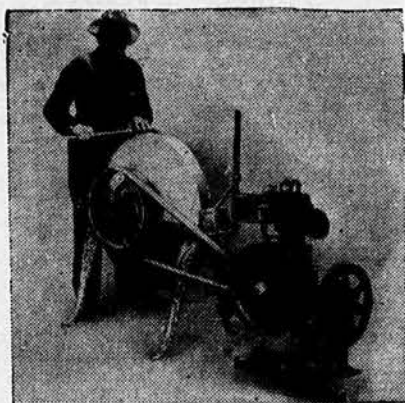


# I Am the Friend of the Farmer and His Wife



Here are  
Some  
of My  
Favorite  
"Stunts":

- Running
- Corn Shellers
- Fanning Mills
- Washing Machines
- Churns
- Cream Separators
- Grindstones
- Drag Saws
- Spray Pumps
- Bone Cutters
- Watering Gardens
- Home Electric Light Plants
- Feed Choppers
- Polishing Wheels
- Printing Presses
- Clipping Machines
- Bilge Pumps
- Water-Supply Systems
- Washing Boxes, Windows, etc.



**Farm Pump Engine  
Running Washer, Separator and Pump**

I am a mighty good friend of the Farmer and his Wife. I'm the Silent Partner of the farm and I work without pay, for a lifetime. I'll tackle any task that comes my way. I'm so chock full of Power that I've got to keep busy. I'm the Handy Man that helps the wife—the mother—do the very hardest work.

When Washday comes, I'm on the job, running the washer and wringer and pumping the water, besides. I run the cream separator. I churn the butter. The busier I am the better I like it.

When I'm not helping the women folks you'll find me helping the men. I run the fanning mill, the feed cutter, the wood saw, the cider press, etc. I even turn the grindstone.

I run any kind of hand-power or foot-power machine that is ever used on the farm. I'm a star performer at pumping. I can pump 800 to 1,000 gallons per hour and keep it up all day long without getting overheated. I hook up to a

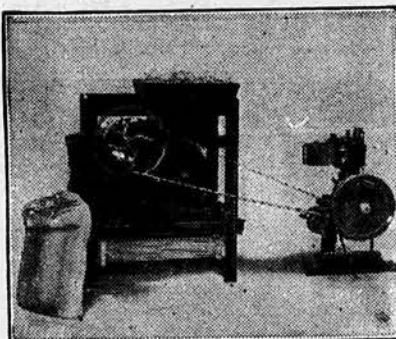
pump in less than no time and need no cement foundation—no belts, no pump jacks, no arms, no anchor posts, tanks or towers. I'll run outdoors, in a snowstorm, as well as under a roof.

I worked in Labrador last winter, when it was 40 degrees below zero.

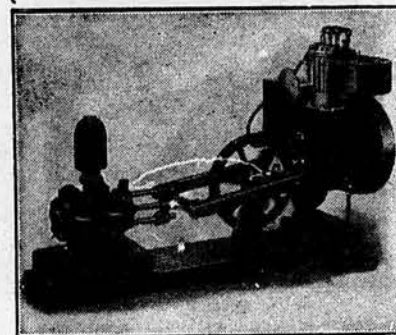
The coldest weather can't knock me out—I simply refuse to freeze. Believe me, I'm worth while.

I can save so much time, work, wages and worry that you and your folks will wonder how you ever managed to run the place without my assistance.

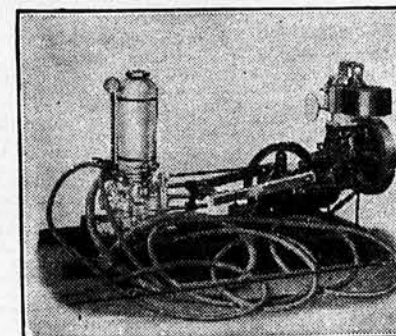
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**Engine Running Fanning Mill**



**Engine Running Volume Pump**



**Engine Running Sprayer**

**On Exhibition  
at Leading  
Dealers**

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The success of the Fuller & Johnson Farm Pump Engine is unprecedented in the history of gasoline engines. We worked on this engine for years before we sprung the surprise. It took the farmers off their feet when we showed them what we had. This engine is different from anything ever known. It is a **PERFECT** air-cooled engine—without fans or cooling attachments of any kind. Working parts protected by Metal Case. **Self-cooling**, as explained in the

catalog. It has the most complete lubricating system ever conceived. The oil is carried up the piston by capillary attraction, just as oil goes up a lamp wick. A "dry piston" is an impossibility. Starts instantly. Needs no attention while running. It is as high grade in every way as automobile engines. Has pulley for running all kinds of light machines. The whole thing comes to you complete—no extras to buy. Ready to run inside of 15 minutes after being uncrated.

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Thousands of Windmills are being torn down and replaced by Farm Pump Engines. For the price of an ordinary windmill you can get this great little engine, which not only outpumps the best Mill built, but does scores of other tasks about the place which no Windmill could ever touch. Get a Farm Pump Engine and have an **unlimited fresh Water Supply**. Use its surplus power for running all the light machines on the place. Don't depend on wind for your water supply. Give your stock fresh, tempered water—not ice water from a tank! You know what that means. Don't put off ordering a Farm Pump Engine until the next big storm rips your windmill from its anchorage and hurls it to the ground! The engine will pay big dividends on the small investment required. You spend a great deal of money for machinery that you use only a few weeks in a year. Here's one that is available **every day in the year** and costs you **less than a windmill**.

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