KANSAS FARMER

For the improvement of the Farm and Home

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IN the United States, the wonderful improvement the Hereford blood wrought in the cattle of our great ranges, first brought the breed into prominence. Here the Hereford reigns almost supreme as a result of its special adaptation to thrive on the dry and not too abundant pasture. Wherever beef is produced the world over we find the "white face" in evidence. They respond quickly to the more abundant feed of the farm and under these conditions are prime favorites in the production of "baby beef," no breed excelling them in early maturity. —*G. C. W.*

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THE MAKING OF SERUM

A Visit to a Commercial Plant, Describing the Various Processes in the Manufacture of Hog Cholera Serum

So much is being said about hog cholera serum and its efficiency in treating hog cholera that it might be of interest to know just exactly how it is made. Technically serum consists of the defibrinated blood of hyperimmune hogs with the addition of a small quantity of phenol or carbolic acid to preserve it. To the layman this does not mean much, and a more intelligent idea of just what it is can be obtained by a detailed description of the various processes of its manufacture.

The following information was obtained from a visit to the plant of the Missouri Valley Serum Company and from data furnished by them. Their plant was selected because they are conceded even by their competitors to have the best commercial serum plant in the United States. All serum prepared in this plant is supervised by competent veterinarians and strictly in accordance with the methods employed by the originators, Drs. Dorsett and Niles, now of the United States Department of Agriculture. Various processes in the production, bottling, packing and distribution of the Missouri Valley Serum Company Anti-Hog Cholera Serum are performed with the utmost care and antiseptic precaution, thus insuring the user a serum which is free from contamination, and if used according to directions will bring about the desired results with no danger of blood poisoning.

The first step in the manufacture of anti-hog cholera serum is the selection of hogs for the making of hyperimmunes. These hogs must all be examined by a competent veterinarian, expert in the diagnosis of the diseases of hogs, so that none but absolutely healthy animals will be obtained. Hyperimmunity is established in these hogs by first rendering them immune by vaccination with anti-hog cholera serum and a small quantity of virulent hog cholera blood. This is followed by the injection into their system of an enormous amount of virulent cholera blood. This treatment causes the production of great numbers of antibodies in the blood of the hog so treated, these anti-bodies are antagonistic to hog cholera and are contained in the blood of the hyperimmunes in such quantities that the serum produced from them is capable of protecting susceptible healthy hogs against hog cholera, and arresting the disease in exposed hogs.

In order to have on hand at all times a fresh supply of this virulent cholera blood it is necessary to keep a great number of seventy-five to one hundred-pound pigs which are inoculated with cholera and their temperatures carefully recorded until they reach the last stages of disease, at which time they are killed and their blood used for hypering. After a hog has been rendered hyperimmune there are two ways in which serum blood may be extracted from his body. The first and original method was to bleed the live hog from the tail three or four times at intervals of about two weeks, then rehyper and repeat the process until his tail was gone. He was then killed and all of the blood taken and used for serum.

The more recent method is the killing outright of every serum hog in the beginning and never bleeding from the tail at all. This last method is a little more expensive, but it guarantees absolutely, by an immediate post-mortem examination, that the hog in question is free from diseased condition of any kind.

The Missouri Valley Serum Company has a plant located at 48 to 60 North Second Street, Kansas City. It is the finest and best equipped in this country. They have one arrangement, making for convenience, dispatch and sanitation in the handling of both cholera pigs and serum hogs, that is their own idea and one of the best innovations in their plant. It is a revolving three-sided door so arranged that each side of it opens into a different room. A hog is first taken into the wash room, where he is thoroughly washed and fastened in a special groove on this door. His neck is shaved and he is completely enveloped with the exception of his neck in a disinfected white cloth. The door is then revolved one-third the way around and the hog thus prepared is passed into the bleeding room, where the neck is disinfected and the blood drawn. The door again revolves and the carcass passes into the autopsy room, where a minute examination is made to be sure that no other disease is present. The carcass is then disposed of through a door leading from this last room, over a rail to the packing house. The advantages of this revolving door are, first, the time saved, for while one hog is being bled another is washed and hung in a groove, and when the door revolves it takes out the hog just bled and brings in another one washed and ready.

Another and perhaps greater advantage is the fact that nobody is ever permitted inside the bleeding or autopsy room except Doctor Hollecker, the veterinarian in charge. The floor beneath this door and immediately surrounding it is at all times covered with running water to be sure that nothing contaminating can remain on it. After the blood is drawn from a serum hog it is agitated to separate the fibrin from the serum and then strained and pressed. It is then ready to be tested, and if found to be good and potent, is ready for sale to veterinarians for vaccination.

To test this serum eight small pigs are confined in a test pen, all are inoculated with virulent cholera blood and two are given fifteen cubic centimeters of serum, two are given 20 cubic centimeters, and two are given 25 cubic centimeters, and the other two are given none. If the six vaccinated pigs recover and the other two develop an acute case of cholera, then the serum has been proved to be potent and capable of giving immunity to any healthy pig.

Permanent immunity may be given to a herd by the injection simultaneously of serum and a small quantity of virulent blood into the healthy animals. Although this method is accompanied by a slight danger and may result in a loss of possibly one or two per cent, it is by far the most practical method for combating hog cholera that has yet been found. Occasionally a pig is found from an immune sow that it is impossible to give cholera, even though the virus is injected into it without any serum. In other words the pig has inherited immunity. While these cases are rare and hard to account for, nevertheless it is reasonable to believe that a systematic campaign of vaccination with good serum will in years to come almost if not entirely wipe out this disease.

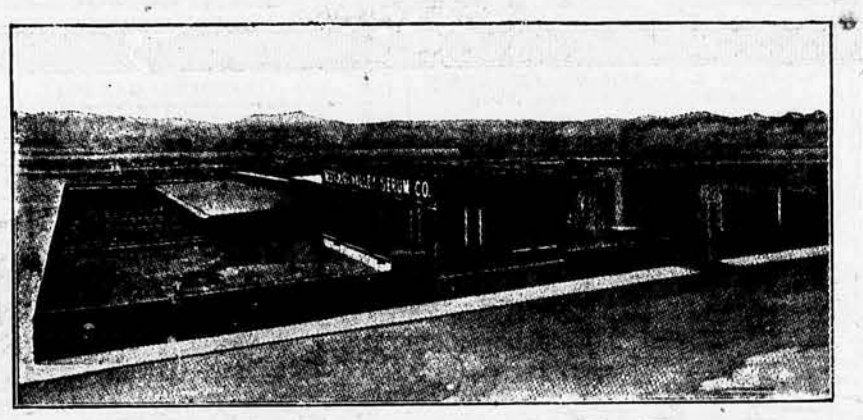
The serum treatment has proved itself to be the most efficacious yet found for combating this disease and deserves the trial and support of every hog raiser. It is to be hoped they will co-operate with the government and various states and wipe out the greatest drawback to hog raising.

Dr. G. I. Blanchard and Dr. E. B. Hollecker, who own and manage the Missouri Valley Serum Company, are without doubt two of the foremost men in the serum business today, from the standpoint of experience and training. Doctor Blanchard has been associated in various capacities with the hog industry all his life. He is a graduate veterinarian and was for several years employed by the government in the Bureau of Animal Industry. He is thoroughly familiar both scientifically and from a practical standpoint, with every detail of the processes used in the manufacture of hog cholera serum. He is a man of untiring energy and is always willing to go at any time to any ranch or farm and give the hog raiser the benefit of his expert advice and experience. Frequently the hog raiser puts off calling a veterinarian until his herd is sick. Whenever Doctor Blanchard is called on such a case he will conscientiously tell the owner whether he thinks he can save any of them or not, and in most instances he has won the commendation of the farmer by doing even better than he promised. Honesty and integrity, above everything else, has always been Doctor Blanchard's motto. Although he will never guarantee the results of his serum, he has implicit faith that it will do what he says it will, and backs it to the limit. In a community where farmers have had bad results with serum vaccination, Doctor Blanchard will buy a bunch of healthy hogs and, after vaccinating them, will turn them into an infected pen or run and thereby demonstrate to the farmers of that particular community that it is entirely effective. While this is not a guarantee, it shows the confidence the doctor has in his own product.

Dr. E. B. Hollecker is the laboratory supervisor and has complete charge of the plant. He is also a graduate veterinarian and an expert on hog cholera. It is his judgment and experience that decides when a cholera pig is ready to be killed for virus, and also his examination that decides a serum hog was healthy when killed. Besides his examination, however, every serum hog that is killed and dressed in the Missouri Valley Serum Plant is posted by a government meat inspector and its perfect condition is absolutely guaranteed. Doctor Hollecker would by many people be considered a crank on sanitation, but when you are buying serum to vaccinate a healthy herd of hogs it is a comfortable feeling to know that such a man had charge of the laboratories in which it was made. When he is handling serum, either in the bleeding room or in the adjoining laboratory, no one is allowed to enter.

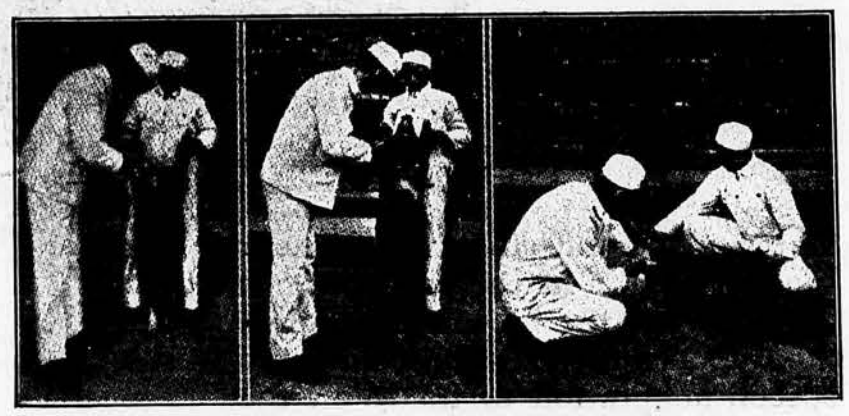
When one has had the privilege of going through this plant and having seen the caliber of the men in charge, it is easy to believe their statements as to the satisfactory quality of their serum. One man used over a million and a quarter cubic centimeters last year and has already used a considerable quantity this year, thereby proving that he was well pleased with the results obtained. They have many customers who have been using their serum since the company started.

The success of the Missouri Valley Serum Company is without doubt due primarily to the wonderful facilities they have in their plant and also to the close application of both the principals in looking after the details of the business, for in the serum business as in no other the details are the important part.—(Adv.)



A PANORAMIC VIEW OF OUR PLANT LOCATED AT 48 TO 60 NORTH SECOND STREET, KANSAS CITY, U. S. A.—ON THE LEFT CAN BE SEEN THE YARDS FOR HYPERIMMUNES WITH COVERED SHEDS AND CONCRETE FEEDING FLOORS.—PACKING PLANT ON RIGHT.

A VIEW SHOWING OUR THREE SEPARATE ROOMS FOR THE PREPARING, BLEEDING AND AUTOPSY OF THE VIRUS HOGS.—THE SAME CARE IS GIVEN THE VIRUS HOG AS IS GIVEN TO THE HYPERIMMUNE.—COMPLETE RECORD IS KEPT OF EACH AUTOPSY.



THREE VIEWS SHOWING THE VACCINATING OF THE WELL HOG. NO. 1—INJECTING SERUM INTO MUSCLES OF A HAM (PIG). NO. 2—INJECTING THE SERUM INTO MUSCLES OF THE FORELEG.—NO. 3—INJECTING SERUM INTO MUSCLES OF HAM (LARGE HOG)

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OUR GUARANTEE

KANSAS FARMER aims to publish only the advertisements of reliable persons or firms, and we guarantee our subscribers against loss due to fraudulent misrepresentation in any advertisement appearing in this issue, provided, that mention was made of KANSAS FARMER when ordering. We do not, however, undertake to settle minor claims or disputes between a subscriber and advertiser, or be responsible in case of bankruptcy of advertiser after advertisement appears. Claims must be made within thirty days.

PREPARATION FOR WHEAT.

Plowing for wheat is making slow progress. This is not because in all sections of the state it is too dry to plow, but due to the harvesting of a record-breaking acreage and the disposition to get threshing out of the way. Reports received from seventy-five counties indicate that on August 1 ten to twenty-five per cent only of the acreage desired for fall wheat was plowed. The higher percentage of plowing has been done in the eastern third of the state and the percentage gradually grows less westward until on the west line it is doubtful if more than five per cent of the plowing is done. It is to be remembered that the percentage of wheat acreage sown on plowed land is always less in the western part of the state than in the eastern. Under present existing conditions it is certain that there will be comparatively little land sown to wheat this fall which has been plowed before August 15, as it should be.

Since it may now in your section be too dry to plow and rains may not be so kind as to permit of the usual preparation for wheat seeding, an important question with every wheat grower is by what method and in what manner can he best prepare wheat land. In lieu of plowing, disking is recommended. Disking can be performed even though it be too dry to plow. The disks must be sharp and weighted down so that they will cut as deep as possible. This means that plenty of horse power should be used. All fields will require at least two diskings, and some four. Double disking in one direction and cross double disking will in most fields work up as good seed bed as it is likely can be prepared late in the season. A seed bed so prepared will give much better prospects for a crop than late plowing which could not be worked into a well settled condition in advance of seeding.

If rains should come sufficiently far in advance of seeding time to make plowing easy and in sufficient quantity to produce a well settled seed bed, it would pay to plow following disking. The labor involved in the disking would not be lost under these conditions either, for the disked surface would contribute to a more satisfactory condition of the seed bed than could possibly exist in the case of late plowing alone.

There has already been some plowing done and on which only light rains have fallen and the fields are cloddy and rough. Such fields should be worked at once, the idea being to pulverize the clods and to pack the sub-surface. The condition of such land will be greatly improved by disking. The disks should be set straight, the idea being, as above stated, to pulverize the clods, to pack the sub-surface and not to stir the soil. We have seen some plowed fields which would require at least two diskings to put the plowing in as good condition as the use of the disk would warrant. We would not follow disking on plowed fields with a harrow—at least not until rains come. This suggestion applies particularly to the central and western thirds of the state.

There are fields plowed when the ground was moist and which fields are not cloddy, but the soil of which is extremely loose and dry. Such fields would be benefited by the use of the sub-surface packer—an implement which packs the sub-surface but which does not make the surface fine. On early-plowed fields which were moist at time of plowing and which since plowing have had little or no rain, once or twice over with the sub-surface packer will prove highly beneficial.

Land which was plowed well for wheat last fall will give a fairly satisfactory seed bed as a result of disking. Disking is in fact the only method it is possible to pursue which will hurry the preparation of land for wheat. Where it is not too dry to plow, plowing should be done. If the land plows up lumpy, it should receive some treatment immediately following plowing which will pack the sub-surface. The use of a drag harrow will not do this. But the disk, set straight, will. It will compact the field by settling the plowed ground and also by crowding out the air spaces made by clods and weeds or stubble.

YOU NEED SILO.

There are a good many fields of corn which will this year produce roughage only. Unless the roughage is saved the grower will be out of pocket about $6 for each acre—that being a fair average of the cost of corn production for Kansas. If this roughage is put in shock and the fall rains should be abundant, the loss will be heavy—as it was last year. If put in a silo it can be saved without loss and held, if necessary, in perfect condition for another year. By saving the roughage is the only chance the grower has to get anything for his $6 in labor, interest on investment, etc.

You may feel sure that you will have plenty of roughage "for this year" without the trouble and expense of a silo, but what about next year? You have no guarantee of a better roughage or grain feed year than this, in 1915. A supply of roughage carried over always looks good—as good as a crib of old corn and as necessary. Then why not begin to create that reserve this year? There is more roughage in Kansas right now than the live stock of the state can consume. That was the condition at this time in 1912. But, in 1913 roughage was short—very short—and thousands of farmers wished they had saved the surplus of 1912. Here's hoping that in 1915 you'll not have the same regret—but the way to avoid regret, to save money, to feed the stock and to make money, is to save the feed when you have it.

What will next year bring from a moisture standpoint? We do not know, neither do you, and no one can tell. The July just past was the eighth driest in twenty-eight years—only twenty of the last twenty-eight have been wetter. This may help you to a guess. If you are fair with yourself in making the guess you'll conclude to take care of this year's roughage whether you need it this year or not. Remember that the silo will save the roughage at a maximum of its feeding value and that it will keep perfectly for an indefinite period. A portion of this year's wheat money can at great profit be expended for a silo.

SORGHUM DAY.

For years you have seen patches of grain sorghums make fair yields of grain and forage when corn totally failed. You thought the sorghums "might do," but you'd "give corn another trial." Last season demonstrated the value of sorghums more forcibly than ever before and in some sections the demonstration is fully as marked this year. Here is good opportunity for grain sorghum observations extended by Superintendent Helder of the Hays Experiment Station:

"As the period of dry weather, which has prevailed throughout Kansas quite generally, causes the corn and other feed crops to curl, wither and sear, the writer expressed a fellow feeling of sympathy upon the outlook which at present indicates another short forage and feed grain crop. However, it is not wisdom to sit idly by and fail to learn the lessons these climatic conditions present.

"The fields at the Fort Hays Experiment Station no doubt show this season the largest demonstration ever undertaken by an experiment station or demonstration farm in the production of feed crops; sorghums, corn, and forage crops generally. The weather of the past five weeks has caused these crops to demonstrate varietal characteristics very important to know. Wishing to make the Fort Hays Station of greatest practical use to the farmers and stockmen of the state, meetings are arranged several times each season when the farm has crops to show which teach valuable lessons.

"Realizing that personal inspection of these crops as they appear in the field would not only be attractive, but instructive and educational to a considerable degree, the staff of the Fort Hays Experiment Station are willing to set apart a day for the entertainment of farmers and feeders who would come and participate in a demonstration of the varieties of feed crops grown at the state farm at Hays. To secure opinions from farmers in various parts of Kansas, particularly the western third of the state, as to the advisability of this meeting, and at what time it would best suit the ones interested to come to Hays, the writer would appreciate suggestions sent him by mail within this week. Should a date for such meeting be decided upon, announcement will be made in ample time to acquaint the farming friends with the plan."

BOYS' AND GIRLS' PHOTO CONTEST.

In our issue of July 11 we announced for farmers' boys and girls, prizes for photographs of the various phases of farm life—stock, buildings, fields, farm operations, etc. This was announced as a monthly contest, but the young people among KANSAS FARMER families have evidently been too busy harvesting and threshing to take many pictures, so the first contest will be extended one month and prizes awarded September 11 instead of August 11.

Keep in mind that the photos may be of any size, should be unmounted and without writing on either front or back. A description of the location, name and postoffice address of sender should be given in letter with photo. All photos submitted become the property of KANSAS FARMER. The prizes are: Best photo, $3.00; second best photo, $2.00; third, fourth and fifth, each, 75 cents.

In this contest, subject and photograph are each considered, but keep in mind that experience in photography is not necessarily essential to success in this competition—neither is expensiveness or size of camera. Many of the pictures printed in KANSAS FARMER are from amateurs whose cameras are small and inexpensive. Address Art Editor, KANSAS FARMER.

Kansas will have the best ideas obtainable in the conduct of its farmers' institutes and farm demonstrations—in which work the state is already a leader. Visits to leading agricultural colleges in the Middle West will form the vacation of Edward C. Johnson, superintendent of institutes and demonstrations for Kansas. Mr. Johnson will inspect the work, particularly the extension activities, of the agricultural divisions of the University of Missouri, Purdue University of Indiana, the University of Wisconsin, the University of Minnesota, and the Iowa State College of Agriculture.

PRIZES FOR GRAIN SORGHUMS.

At some twenty-five or thirty of the county fairs to be held in Kansas this fall, KANSAS FARMER is offering special prizes for the best ten heads of black-hulled and red kafir and of milo and feterita. These premiums are in addition to those offered by the fair organization. The exhibits winning the special prizes are to be carefully packed and shipped to KANSAS FARMER, each exhibit to be marked with the name and postoffice address of the grower.

These specimens will be forwarded to the International Dry Farming Exposition to be held at Wichita, October 7 to 17, where they will be entered and exhibited under the name of the grower and who will receive all the prizes the exhibits may there win. The prize-winning specimens shown at this exposition will become a part of the Kansas exhibit at the Panama-Pacific Exposition to be held in San Francisco in 1915.

It will be worth while for those who have grown kafir, milo and feterita to communicate with the fair organizations of their counties relative to the premiums offered by the fair and also those offered by KANSAS FARMER. They should also write R. H. Faxon, Secretary, International Dry Farming Congress, Wichita, Kansas, for a schedule of the prizes offered by that exposition. Among these are three cash prizes offered by KANSAS FARMER as follows: $25 for the best kafir heads of any variety; $25 for the best milo heads of any variety, and $25 for the best heads of feterita or Sudan durra.

It should be understood that to compete at Wichita for the KANSAS FARMER special cash prizes it is not necessary that the specimens be first exhibited at the local fair. It will be a kindly act toward your local organization, however, to make a showing at its exposition. So to do will encourage grain sorghum growing in your community. Furthermore, the prize-winning specimens at the local fair will stand a better chance of winning prizes at Wichita than those specimens on which judgment has not already been passed. If, however, there is no local fair at which you can exhibit, or should your grain sorghums ripen too late for exhibition at such fair, you are not barred from competition at Wichita.

The grain sorghums promise well in Kansas this season. In fact in some sections they are already made. This is another one of the years when they have shown to advantage as more certain producers of grain feed than corn, and it behooves every farmer who desires a more prosperous and permanent agriculture to boost for the growing of more kafir, milo and feterita.

"Sorghums: Sure Money Crops," by the editor of KANSAS FARMER, is a book which clearly illustrates the correct type of head to select for exhibition, as well as the type to save for seed, and, by the way, seed-saving time is not far off. This book ought to be in the hands of every sorghum grower and we think every Kansas farmer—whether he grows sorghums or not—would profit by its reading. It can be had with a year's subscription to KANSAS FARMER for $1.50.

Additional evidence in favor of the use of the silo as a means of feed storage comes from the farm of O. W. Righter in Indiana, on which silage has been preserved in perfect condition for fourteen years. This silage came from a silo built five feet into the ground, this portion of the silo having concrete walls eighteen inches thick and the bottom being of clay. Not for fourteen years has this silo been emptied below the ground. The aged silage was observed to be slightly higher in acid than newer silage, but it was eaten with no less relish by the stock. This was silage from corn making about fifty bushels per acre and the corn was ripe when put into the silo. We have not heard of older silage than this.

An alfalfa patch is a fine place nights for horses from now until October.

IF it is too dry to plow, get onto the wheat ground with a disk.

Keep the disks sharp and well weighted and they will go into the ground. Attach plenty of horse power and go to it. It may require four times over, but if you can't plow you can't do better work for wheat.

If the surface is very hard, set the disks straight for the first time over. Increase the slant for each succeeding disking and you'll finally get a seed bed.

If it should rain later and you can plow the land before seeding time, the labor expended in disking will not be lost. It will enable you to sow wheat with just that much better chance for a crop.

Keeping on the job until you work up a seed bed just as early as possible, is more likely to give a satisfactory reward.

T. A. Borman

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

We have an inquiry from J. R. L., one of our readers in Eastern Kansas, regarding the desirability of placing a cement floor in silos. This correspondent seems to have the idea that such a floor is necessary in order to retain the juices of the silage.

Where the silage material is in proper condition there should be little, if any, excess juice to settle to the bottom of the silage. Crops should reach such a stage of maturity as not to contain an excess of water. In cases where there is an excess of juice it is better to have the bottom so constructed as to permit the juice to drain out. It is quite customary where cement floors are placed in silos, to provide a drain for this purpose. Others advise the using of the dirt for the bottom in order to have any excess juices absorbed.

It is sometimes necessary in filling silos to add water to the material. This necessity arises, however, only when the weather conditions have been such that the material got too dry to pack solidly when it has gone into the silo.

It is sometimes desirable to have a cement floor in a silo, but not for the purpose of retaining the juice from the silage. Cement floors can be put in at any time that it is desired, and many silo builders start out with a dirt floor only, even though it is their intention to put in a cement floor later.

Sweet Clover Hay and Pasture.

"I started to feed this sweet clover about eight years ago," writes E. G. Finnup, Garden City. "It is the white-blooming variety, the Melilotus Alba, which is considered the best; and from watching my stock feeding on it, I began to believe it did better on sweet clover hay than on almost any other roughness; so I commenced to spread the fields and got to sowing it until I now have 3,000 acres.

"Sweet clover has proved to be as good feed for all kinds of stock as alfalfa. It makes a better early pasture, will not bloat stock, and is easier grown.

"It grows without much preparation of the ground, and will grow on ground too poor for any other crop, and is about the best fertilizer for wornout soil of any of the clovers.

"I cut my first crop for hay the latter part of May. The last of August the seed is ripe, then another hay crop. You can allow the first crop to go for seed, but the stems get pretty thick and tall, so that it is harder to handle. It is a biennial legume plant, so that the first year it does not go to seed, but will seed the next year. Enough seed falls off every fall to reseed the ground, so that it is a continuous crop similar to alfalfa.

"I thresh with a regular grain separator—either out of the stack or shocks. I think ten pounds of seed per acre is sufficient to sow in this section. I prefer to sow in the fall and winter. A good many have excellent success by sowing in February, March, April, May and June. I think a good deal depends on the season; in fact, almost all.

"It seems to stand all kinds of pasturing, both in the spring and fall. I know of some fields that are pastured clear up into May and then make a good crop of seed and a hay crop besides. I do not think it lasts as long as alfalfa for pasture in the fall. There is no bad effect on the milk of cows pasturing sweet clover or eating the hay. I refer to the white blooming variety.

"I am absolutely positive about it not bloating any kind of stock, and it will not give horses the heaves like alfalfa sometimes will."

Capacity of Silos.

Our correspondent, A. L. B., of Comanche County, writes us regarding the estimated capacity of a silo 18 feet in diameter and 51 feet high. Silos of these extreme sizes have only been built in comparatively recent years and we have little accurate data as to the density of silage in silos of such great height.

Professor King, formerly of Wisconsin Experiment Station, conducted quite extensive experimentation on this subject and his figures are used almost entirely in estimating the capacities of silos.

The table which appears on this page gives the weight of silage at different depths in the silo and also the mean weight of silage in silos in different depths. It will be noted in this table that in average silage the weight of a cubic foot, 36 feet from the top, is 61 pounds, and the mean weight of silage in a silo where there is 36 feet of settled silage is 42.8 pounds per cubic foot. Of course the weight of silage increases with the depth, and the silage in a silo 51 feet high would be considerably heavier than that in one only 36 feet high.

In estimating the capacity of silos, allowance, of course, must be made for the settling. A silo 51 feet high, after settling, might not contain more than 45 or 46 feet of silage. Under average conditions the 18 x 51-foot silo should hold in the neighborhood of 320 tons of silage. Weight of the silage will vary in accordance with the kind and condition of the material used in filling.

Our correspondent is interested in this matter from the standpoint of filling silos for those not equipped with engine and cutter. In our investigation as to the common practice in charging for the filling of silos, it would appear that the customary charge has been 35 cents per ton where power and cutter are furnished. This charge, of course, does not include any labor outside of that necessary to run the cutter and engine.

This question is coming up so frequently that we trust that those of our readers who have had some practical experience in filling silos for others will write us their experience. It will be a great service to many to have the experience of others to guide them in this matter.

Do Not Use Vinegar in Bran Mash.

J. W. B., Gove County, asks if vinegar and black strap molasses can be substituted for fruit juice and glucose syrup in the formula for the poison bran mash put out by the Kansas Agricultural College for the destruction of grasshoppers and army worms.

In reply to this inquiry, George A. Dean, entomologist of the Kansas Agricultural College experiment Station, whose success in fighting grasshoppers and army worms by the use of poison bran mash is one of the marked successes in insect control in this state, says that 160 tons of the poison bran mash distributed last year in Ellis County was mixed with black strap molasses and the results seemed as satisfactory in that county as in others in which glucose syrup was used in the preparation of the mash. He says, however, that the glucose syrup is much preferred by him because it is sweeter. He says he has also used vinegar on some occasions and it has been fairly effective, but on the whole he does not think it a good substitute for the juice of oranges or lemons. In fact, so far he recommends the use only of fruit juice.

KANSAS FARMER desires to urge upon its folks the use of poison bran mash prepared after the exact formula submitted by the Kansas Agricultural College. Much experimentation was employed in establishing this formula and we are confident that bran mash so prepared will give better results than if substitutions are made.

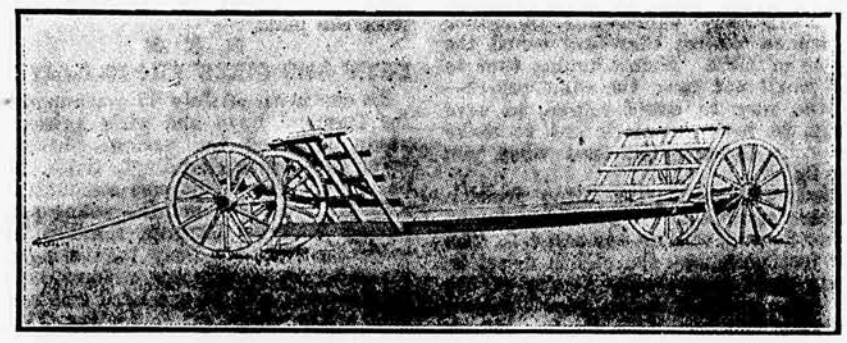
Horse Power for Silage Cutter.

Subscriber D. C. W., Ottawa County, inquires about the horse power required to operate silage cutters of the various sizes and also as to the most convenient method of cutting the crop in the field.

Silage cutters vary in the amount of power required, but it may be considered generally that one horse power is required for each inch of cutter. That is, a cutter with 14-inch cutting blades will require a 14-horse power gasoline engine. If steam engine is used a 10 or 12-horse power will be sufficient. It is understood that the horse power rating on gasoline engines is somewhat higher than in the case of steam. It is assumed in the foregoing, also, that the cut material is elevated by blower. This method of elevation requires more power than if done by elevator. Elevators, however, are not now in common use. If the silo is under ground, as in the case of the pit silo, then only slightly more than half of the above indicated power is required in operating the cutter.

The crop in the field can best be gotten into condition for hauling by the use of a binder. In the case of corn or tall, heavy, row-planted cane or kafir, the corn binder is essential. In the case of sowed kafir or cane, which is not so tall that it cannot be handled by the grain binder, such binder will give good service and the width of swath may be so reduced as to make the use of grain binder feasible. Also, frequently kafir and cane, row-planted, can be handled with the grain binder. The use of the binder greatly facilitates the work of cutting the crop in the field for silage. When the crop is placed in bundles it can be handled in all stages more readily and the filling of the silo can proceed more expeditiously than if the corn, kafir or cane is cut with a sled or by hand.

The ordinary hay rack with open sides but with built-up ends is satisfactory for delivery from the field to the cutter. If the hay rack can be placed on a low-down wagon or truck, this affords about as convenient an arrangement as can be made, although a low-down wagon may be constructed as shown in the illustration on this page and which will save labor because the lift is not so high. Still, this saving in labor is probably offset by the smaller load such low-down wagon will haul. It is economy to haul as large loads from the field as possible and it is also economical to engage as many teams in hauling as will keep the binder in the field going steadily. The rate of cutting and hauling will, of course, depend upon the size of silage cutter used.



LOW-DOWN RACK SUITABLE FOR DELIVERING BOUND CORN, KAFIR OR CANE TO THE CUTTER.

Free Examination of Seeds.

B. C. S. writes: "Am I to understand from KANSAS FARMER of a few weeks ago that the Kansas Agricultural College will make examination of alfalfa seed for purity?"

Yes. The botanical department will examine seed samples for adulteration and will name the weed seeds contained and state whether or not they are dangerous. The same department will make germination tests. This service is for the asking. Then why sow weed seed with your alfalfa or sweet clover?

Likes Feterita and Sudan Grass.

Your request for reports from growers of feterita on the condition of the crop has just come to my notice. I have an idea the poor stands you mention may be caused by too early or too deep planting. Also the outer casing of the seed is tender and thin and easily cracked and the grain injured, and I would be skeptical of bulk seed. Enough seed can be beaten out of the heads in a sack in a few minutes to plant as much as the average farmer will want.

I saw my first feterita last July in Oklahoma and again in October, and was so favorably impressed with it that I induced Mr. Lane, our county agricultural agent, to buy ten 70-pound bushels in the head for members of the Harvey County Farm Improvement Club. It cost us $2 per bushel net.

I planted two city blocks—about twelve acres—one of which had been in rye for pasture, the other in alfalfa since 1907. The season has been dry and the planting on rye sod has not made as good a showing as that on alfalfa sod.

I planted both blocks in one field June 9 and 10, with a Racine Sattley drill planter, planting the seed as thinly as the machine would plant. In three days it was up enough to be seen down the rows, and now, August 1—seven weeks and three days from time of planting—that on the alfalfa sod is practically all headed out, that on the rye sod is perhaps a week later.

Two of my neighbors have fields of eight or ten acres each, and while none of us expect anything phenomenal, we all have good stands and the growth has been satisfactory.

We have not had a normal rainfall in the vicinity of Newton this summer and, while feterita is highly recommended as a dry weather resistant, I am satisfied I would have a better yield if it had more moisture.

Through Mr. Lane I secured a pound of Sudan grass. I planted the pound on one-fourth acre of ground in cultivated rows. I expect to save every seed off it. I can therefore say nothing as to its quality for hay, but I do want to say that for bulk yield it beats anything in the hay line that ever got into this locality. Yesterday I counted 76 stalks from one seed and took no account of a multitude of shoots just starting from the roots, and I did not pick on a particularly thick bunch, either.—ALVAH SOUDER, Harvey County.

Egg "Pickling" Methods.

Subscriber N. M. S., Jackson County, asks for information regarding the several methods of preserving eggs.

There is the old process known as "liming." One pound of quicklime and a half pound of table salt are thoroughly mixed with four quarts of boiling water. After settling the clear solution is drawn off. Fresh, clean eggs are placed in a stone or glass jar or water-tight keg and the solution poured over them until all the eggs are fully surrounded and covered by the liquid. The jars should have close-fitting covers to exclude the air and should be kept in a cool place.

Another treatment is that known as water glass and the use of which is regarded as more successful than other methods. This employs liquid glass—which is the silicate of soda—as the preserving medium. This is obtained at drug stores at a cost of 40 to 60 cents a gallon. One pint of water glass is diluted by adding nine pints of boiled water. Fresh, clean eggs are placed in a jar or other receptacle and the water glass solution is poured over them until they are completely submerged. The liquid should stand at least one or two inches above the eggs and if necessary an inverted plate or saucer may be placed in the liquid over the eggs to hold them in place beneath the surface of the liquid. The jar should be tightly covered and set in a cool place.

It should be kept in mind that while the above are methods pertaining to the preservation of eggs for family use, that in Kansas eggs so preserved should not be offered for sale as fresh eggs. It is not contrary to law to offer them as "preserved" or "pickled" eggs. However, there is risk in attempting to sell even such, and it is safest not to make the attempt.

King's Table of Weights.

Table showing the computed weight of well matured corn silage at different distances below the surface, and the computed mean weight for silos of different depths, two days after filling. (From King.)

Depth of Silage.	Weight of Silage at Different Depths.	Mean Weight of Silage per Cubit Ft.
20 feet	46.2 pounds	33.3 pounds
21 feet	47.4 pounds	33.9 pounds
22 feet	48.5 pounds	34.6 pounds
23 feet	49.6 pounds	35.3 pounds
24 feet	50.6 pounds	35.9 pounds
25 feet	51.7 pounds	36.5 pounds
26 feet	52.7 pounds	37.2 pounds
27 feet	53.6 pounds	37.8 pounds
28 feet	54.6 pounds	38.4 pounds
29 feet	55.5 pounds	39.0 pounds
30 feet	56.4 pounds	39.6 pounds
31 feet	57.2 pounds	40.1 pounds
32 feet	58.0 pounds	40.7 pounds
33 feet	58.8 pounds	41.2 pounds
34 feet	59.6 pounds	41.8 pounds
35 feet	60.3 pounds	42.3 pounds
36 feet	61.0 pounds	42.8 pounds

ROTATION AND MANURING

Recommended For Greenwood But Good For Any County Anywhere

THE decrease in yields of certain lands in Greenwood County, Kansas, according to the soil survey report of the U. S. Department of Agriculture, is due to the failure to follow rotation of crops, and severe and injurious cropping, rather than to any marked decrease in the inherent fertility of the soil. There are fields that have been in corn continuously since the early settlement of the section, and the general practice of keeping land in corn year after year has been continued in cases until the yield was so small as to make further corn production unprofitable.

The report, which devotes 34 pages and a large map to summarizing the survey, then makes the following recommendation for restoring the soils of the county:

IMPOVERISHED SOILS CAN BE RESTORED.

Soils impoverished in this way often can be restored to their former condition of productivity simply by the practice of rotation and by improved methods of tillage. Each farmer should adopt a crop rotation system which will answer the requirements of his farm and the types of soil occurring thereon. Alfalfa, cowpeas, or red clover should be included in every rotation to supply nitrogen to the soil, and manures should be applied when available. Cowpeas are not extensively grown, but can be fitted into many good rotations. They can be planted in corn after the last cultivation or after wheat in July, and mowed for hay in October, or they can be sowed in late spring with oats and cut for hay. The general practice is to drill them in rows in the spring, so that they may be cultivated and mowed for hay in the early fall. They may also be put in the silo along with corn. Whippoorwill and New Era are the best varieties for the county. Red clover sowed in wheat in the spring makes excellent pasture after the wheat has been harvested and may be mowed for two years. Corn, kafir and sorghum should never be grown on the same land for more than two years in succession. Alfalfa is a good renovator, but is not adapted to short rotations. It is not profitable if it can not be left for more than three years. Red clover fits better into short rotations.

Until within the last few years a great deal of the manure made in the feed lots was wasted, the idea being to get rid of it in the easiest way possible, but now the feed lots are usually cleared and the manure hauled to the fields. All manure should be applied to the soil as soon as possible. On most farms the best way to handle manure is to haul it to the field and spread it daily, so that the soil may derive the benefits of the leaching and conserve the fertilizing elements that are lost through heating.

DRAINAGE REQUIRED FOR HARDPAN.

The Oswego silt loam occupies level topography on the divides between streams and is locally known as "gumbo land" or "hardpan land." The type is deficient in drainage. It is a good corn soil and when drained will grow good alfalfa.

The flat, nearly level surface configuration does not favor a sufficiently rapid run-off of surface water, nor does the impervious nature of the subsoil permit the free downward movement of water. However, the position and topography of the type are such as to permit of easy drainage with tile drains. On some of the larger areas this could be accomplished more successfully and more economically on a large scale, as in that way a more satisfactory fall could be established for the easy flow of the water; otherwise the central portions of large areas might not have sufficient elevation above the surrounding land to insure thorough drainage even through tiles, so that large, long drains would be necessary. Not only is tile drainage beneficial for the removal of the excess water, but it causes the subsoil to become looser and more friable through aeration. Open ditches are sometimes used to remove the surface water, but they are of little benefit in aerating the subsoil.

The Oswego silty clay loam resembles the silt loam, but it is a heavier soil and occurs sometimes in the stream valleys. It also occupies parts of the stream divides.

The yield of both corn and kafir could be materially increased by a more thorough preparation of the seed bed and better cultivation. The land should be plowed as deep as possible, in the fall, exposing the impervious subsoil to the action of frost and air, and thoroughly disked very early in the spring.

POOR ALFALFA STAND OVERCOME.

The Summit silty clay loam is the predominating type and is adapted to corn, wheat and alfalfa. A large part of the type is in pasture and supports a heavy growth of grass. Alfalfa is successfully grown on this type, but should only be planted on well-drained areas. Trouble has been experienced in securing a good stand the first seeding, probably because of the absence of those bacteria in the soil that promote the growth of the plant. Failures are sometimes caused by improper preparation of the seed bed. After several attempts a satisfactory stand is usually obtained. Three or four cuttings are made each year, averaging one-half to three-quarters of a ton each.

The climate is humid and adapted to the production of general farm crops.

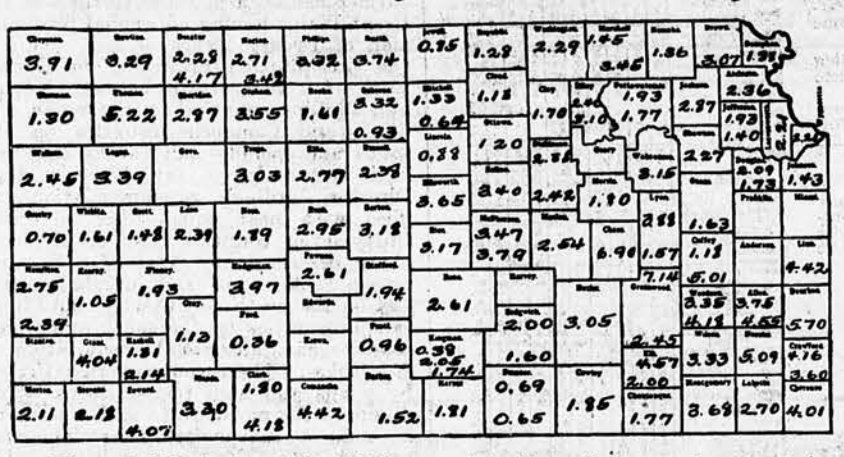
The fattening and marketing of live stock is the most important industry in the county.

Excepting wheat, the bulk of the crops enumerated are used to feed live stock.

The principal crops, named in about the order of their importance, are corn, alfalfa, kafir, wheat, sorghum, oats, millet and cowpeas.

The Summit stony loam and the Crawford gravelly loam are confined to the Flint Hills and are valued only for the grass that they produce. They are too rough for cultivation.

Kansas Rainfall By Counties For July



The rainfall during July, 1914, was less than the normal amount in about four-fifths of the counties of Kansas, but the state received twice as much rain this month as it did in July of last year. It was the seventh warmest and the eighth driest July Kansas has experienced in the past 28 years, and was two degrees cooler than that month last year.

The western third of the state received more rain than the middle third, which is unusual. The average rainfall over the eastern third of Kansas this month was 3.11 inches; the middle third, 2.20 inches; and the western third, 2.61 inches. The average for the state was 2.65 inches, which is 1.09 inches below normal.

Wheat Farming In Northwest Kansas

Four Crops in Six Years Average 15 Bushels Each—H. T. Nielsen

ON the farm of Asa Payne, McDonald, in the northeastern part of Cheyenne County, an interesting method of raising wheat is in successful operation. The plan is to summer fallow the land and get two crops of wheat from the same field in three years time. Mr. Payne says it pays, and that he would think he wasn't farming if he didn't have a piece of summer fallowed land each year. Mr. Payne's land is about the average of Northwestern Kansas, though it is more nearly level than a good deal of it. It is no more favorable for wheat growing than hundreds of other farms in this part of the state.

EARLY SPRING LISTING.

The plan is as follows: A field is listed early in the spring, say by the middle of April. The listing is five to six inches deep. No preparation previous to listing is given the soil. Usually, though not always, the listed ground is harrowed with an ordinary harrow after a rain. Along about the middle of May, or a little later, the ridges are completely thrown down with one operation of the two-row lister cultivator. The field is left in this condition until just before harvest, about July 1, when it is re-listed; i. e., the ridges are split. It can then be safely left until after harvest. The harrow is generally used one time after this second listing, and by the latter part of July the ridges are again thrown down with the two-row lister cultivator. This operation was just being completed on July 31 this year. There is nearly always a good rain between August 1 and seeding time, and following such a rain the field is worked diagonally with spring tooth harrows. There is no other work done till seeding time.

Mr. Payne believes in early seeding of wheat on his fallowed ground. He has been starting in previous years about September 10, but expects to begin a week earlier this year. He does this to get a large fall growth which he says protects the ground and prevents soil drifting. He uses a disk drill and sows one-half bushel of seed per acre. This has been found to give the best average results, he says. Sometimes in the spring the wheat is harrowed, but only if the season has been such as to crust the ground. Under this treatment the harvest usually comes rather earlier than is customary for this section.

The preparation of the ground for the second crop of wheat is very simple. As soon as possible after harvest the field is lightly single-disked and left in that condition till time to sow wheat. A disk drill is used and the seeding done right in the stubble.

The land is allowed to lie entirely untouched from the harvesting of the second crop of wheat until the early listing for the next summer fallowing is done the next spring.

WORK REQUIRED FOR 80 ACRES.

Briefly tabulated, the work done on an 80-acre field is as follows. Two listings, one man with six horses and two-row lister, ten days; two harrowings, one man with four horses, five days; two disk cultivations, one man with four horses, ten days; one spring tooth harrowing, one man with three horses, five days; seeding, one man with four horses, four days.

Mr. Payne has not kept absolutely accurate records, but feels sure that an acre of ground, in four crops or six years, will yield 90 bushels of wheat. This would be an average of fifteen bushels per acre, which is certainly very good.

LISTING PREFERABLE TO PLOWING.

Listing is done in preference to plowing because it is easier to control the weeds. In case of a wet harvest season, on plowed ground the weeds get so large that it is almost impossible to kill them except by plowing. And even if the weeds get pretty large on the listed fields, the lister cultivator will get practically every one of them. Mr. Payne's fields are remarkably free from weeds. This is true not only of the one being fallowed this year, but of the ones fallowed last year, and the year before. Indeed there is scarcely a weed in sight on any of them. Weeds caused more trouble in earlier years, however. Mr. Payne has been following this plan for seven years, and as he and his farm look prosperous it is evidently a paying proposition.

Do Not Overlook the Silo This Year

DURING the past five or six years Kansas has built about 7,000 silos of the various kinds. Last year, when there was little corn, kafir or cane to put into silos, there were probably 1,500 silos constructed, and these, with those already built, proved the salvation of live stock feeding and keeping. Now this year, with a prospect for a big corn and sorghum crop there seems to be a "let up" in silo building, and this is the note of warning from the Kansas Agricultural College:

"This is the very time to build more silos, extra silos. Build for next year, for a possible dry year. Ten acres of corn or kafir or cane put into a silo this year and held over for two years will be worth a lot of money in a dry year. If next year should bring a good crop for a silo and if the farmer has only enough stock for one silo, that one could be filled again and he could feed first from the year-old silage. Why not learn the lesson of storing up against a bad year? Save enough wheat now for the 1915 seeding and put up enough silage for two years. The Western Kansas farmer with one pit silo can well afford to put down two more and buy calves and young stuff and carry over for next year. Silage is the finest supplement for dry summer pastures available to the Kansas farmer. But build or dig silos and fill one for insurance and guard against a forced sale of live stock."

This is the season to detect horses which have been overheated. Windbroken horses are easy to detect at any season by their noisy breathing. From a practical viewpoint, however, they are generally more useful in the fields on hot days than are the summer panters.

Hills

Heavy Roads

Smooth Roads

Every-day tests of your lubrication. Try them on near-by roads

How soon does incorrect lubrication show up? Often in one short run. Consider three types of roads:

Hills.—You come to a sharp grade. With one lubricant you must drop to a lower speed. With another lubricant you can climb the hill easily. Only oil correct in *body* and *quality* will give you full power for the hills.

Heavy Roads.—Sand, mud or "rough going" bring heavy strains to the motor. Incorrect oil brings power-waste and excessive friction-drag. Overheating is apt to follow.

Smooth Roads.—Even on the smoothest roads, only the correct grade of oil will give you full power and full mileage from your gasoline. To compare the efficiency of any oil with that of Gargoyle Mobiloils, make this test:

Test.—Select a steep hill. See how far you can go up on high gear with the former oil. Then clean out your motor with kerosene. Fill your oiling system with the correct grade of Gargoyle Mobiloils. Be sure that operating conditions in both cases are identical. Use the same test. See how much farther you go up the hill.

Use the oil specified for your car in our Lubricating Chart, printed in part on the right. A copy of our complete Chart will be sent any motorist on request.

On request we will also mail a pamphlet on the Construction, Operation and Lubrication of Automobile Engines. It describes in detail the common engine troubles and gives their causes and remedies.

Stationary and Portable Engines and Tractors

For all types of Gasoline and Oil Engines. *Water cooled* — Use Gargoyle Mobiloil "A" in summer; use Gargoyle Mobiloil "Arctic" in Winter. *Air cooled* — Use Gargoyle Mobiloil "B" the year 'round. **Tractors**—Use Gargoyle Mobiloil "B" the year 'round.

Correct Lubrication

Explanation: In the schedule, the letter opposite the car indicates the grade of Gargoyle Mobiloil that should be used. For example; "A" means "Gargoyle Mobiloil A." "Arc." means "Gargoyle Mobiloil Arctic." For all electric vehicles use Gargoyle Mobiloil "A." The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

MODEL OF CARS	1910 Gal.	1910 Chas.	1911 Gal.	1911 Chas.	1912 Gal.	1912 Chas.	1913 Gal.	1913 Chas.	1914 Gal.	1914 Chas.
Abbott Detroit	A	Arc.	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
Alco	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
American	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Autocar (2 cyl.)	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (4 cyl.)	E	E	A	Arc.	A	Arc.	...	...	...	...
Avery	A	E	A	E	A	A	A	A	A	A
" (Model C)	...	...	...	...	...	...	...	...	Arc.	Arc.
Buick (2 cyl.)	A	A	A	A	A	A	A	A	...	...
" (4 cyl.)	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (6 cyl.)	...	...	...	...	...	...	...	...	A	Arc.
Cadillac	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Cartercar	A	E	A	E	A	E	A	E	Arc.	Arc.
" Com'l	A	E	A	Arc.	A	Arc.	A	Arc.	...	...
Case	...	...	A	A	A	Arc.	A	Arc.	A	Arc.
Chalmers	Arc.	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.	A	A
Chase (air)	B	B	B	B	B	B	B	B	B	B
" (water)	...	...	...	...	...	...	...	...	Arc.	Arc.
Cole	Arc.	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
E. M. F.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Flanders	E	E	E	E	Arc.	Arc.	...	...	...	...
" (6 cyl.)	...	...	...	...	...	...	Arc.	Arc.	...	...
Ford	A	Arc.	E	E	E	E	E	E	E	E
Franklin	B	Arc.	A	Arc.	A	Arc.	A	Arc.	A	A
" Com'l	B	A	B	A	A	Arc.	A	Arc.	...	...
G. M. C. Truck	...	...	...	...	Arc.	Arc.	A	Arc.	A	Arc.
Haynes	A	E	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Hudson	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Hupmobile (Model 20)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
" (Model 32)	...	...	...	...	...	...	A	Arc.	A	Arc.
I. H. C. (air)	...	...	...	...	...	...	B	A	B	A
" (water)	...	...	...	...	...	...	A	A	A	A
International	B	A	B	B	B	A	...	...	...	...
Interstate	A	E	A	Arc.	A	Arc.	A	Arc.	...	...
Jackson (2 cyl.)	A	A	...	...	...	...	...	...	...	...
" (4 cyl.)	A	Arc.	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
" (6 cyl.)	...	...	...	...	...	...	...	...	Arc.	Arc.
Jeffery	...	...	...	...	...	...	...	...	A	A
" Com'l	...	...	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Kelly	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	A
Kissel Kar	A	E	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
" Com'l	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" " (Model 48)	...	...	...	...	...	...	...	...	A	A
Kline Kar	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
Knox	A	A	A	A	A	A	A	A	B	A
Krit	A	A	A	A	A	A	A	A	A	A
Lozier	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
Mack	A	E	A	E	E	E	E	E	A	E
" (Model B)	...	...	...	...	...	...	A	A	A	A
Marion	A	E	A	E	A	Arc.	A	Arc.	Arc.	Arc.
Marmon	A	E	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Maxwell (2 cyl.)	E	E	E	E	E	E	...	...	...	...
" (4 cyl.)	E	E	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (6 cyl.)	...	...	...	...	...	...	Arc.	Arc.	Arc.	Arc.
Mercer	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Mitchell	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Moon (4 cyl.)	A	E	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (6 cyl.)	...	...	...	...	...	...	...	...	Arc.	Arc.
National	A	A	A	A	A	A	A	A	A	A
Oakland	A	E	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
Oldsmobile	A	E	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
Overland	A	E	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Packard	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
Paige Detroit	E	E	A	Arc.	A	E	A	E	A	A
Pathfinder	...	...	...	...	...	...	A	Arc.	Arc.	Arc.
Pope Hartford	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Premier	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Rambler	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
Regal	A	E	A	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
Reo	A	E	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Sayers	...	...	...	...	...	...	...	...	E	E
Selden	A	E	A	E	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Speedwell	Arc.	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
" Mead	...	...	...	...	...	...	A	Arc.	B	A
Stevens Duryea	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Studebaker	E	E	A	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
Stutz	...	...	...	...	Arc.	Arc.	Arc.	Arc.	A	A
Walter	A	E	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
White	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Winton	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.

GARGOYLE

Mobiloils

A grade for each type of motor

The various grades of Gargoyle Mobiloils, purified to remove free carbon, are: **Gargoyle Mobiloil "A," Gargoyle Mobiloil "B," Gargoyle Mobiloil "E," Gargoyle Mobiloil "Arctic."** They can be secured from reliable garages, automobile supply houses, hardware stores and others who supply lubricants.

It is safest to buy in original barrels, half-barrels and sealed five and one-gallon cans. See that the red Gargoyle, our mark of manufacture, is on the container.

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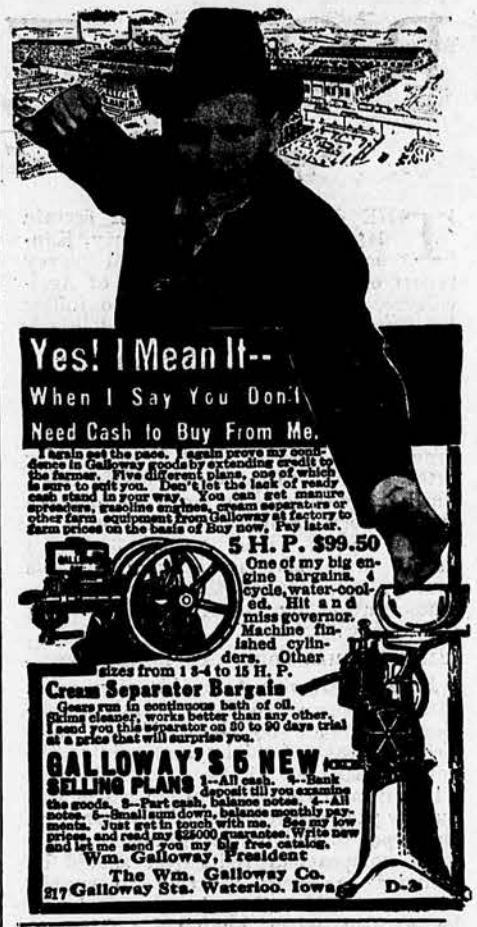
FARM NOTES

It has numerous times been stated in these columns that the permanent and successful farming of the western half of Kansas will depend upon the growing of a smaller acreage of wheat and the production of horses, cattle, hogs and sheep to be fed upon the forage and grain of the sorghums. This idea was recently presented in admirable form by Director Jardine of the Kansas Experiment Station as follows: "Dry farming means a sane production of wheat on carefully prepared ground, with liberal production of grain sorghums applied to live stock raising, by means of the silo preferably." There is in our mind no individual better qualified to frame up a general policy for the dry farmer than is Director Jardine. His experience as an investigator and also as a practical farmer has been in those sections of the Great Plains having an annual precipitation of twenty inches or less. This is the precipitation prevailing in Kansas west of a line drawn between Norton and Phillips counties on the north and Clark and Comanche counties on the south and includes 32 Kansas counties. It is not amiss to say, however, that Director Jardine's recommendation applies with near equal force to those thirty-seven counties east of the line above described and west of a line between Washington and Marshall counties on the north and Cowley and Chautauqua counties on the south and which counties have an annual precipitation of 26½ inches. These counties are affected by winds and high temperatures which dissipate the moisture to such an extent as reduces the moisture available for crops to near the same moisture as is available in sections of higher altitude farther north and within the belt of twenty inches rainfall but not so seriously affected by the moisture-dissipating forces. Kansans in the above sections dislike the term "dry farming." They feel that its application to their neighborhood reflects discredit thereupon. It matters little what name be given to the character of farming in localities of low annual rainfall, but this term is the best we have to express the particular type of soil sultural methods adapted to such sections. The fact remains that in a section of twenty inches of rainfall a different class of crops must of necessity be grown as compared with an annual rainfall of thirty-five inches such as prevails in the eastern third of Kansas. Also the section of lighter rainfall requires a different method of soil handling, and these two things together require different methods of general farm operations as compared with sections of heavier rainfall. These are conditions from which the farmer cannot escape. He must recognize the condition of climate prevailing, for these are conditions which absolutely control the type of his agriculture. The conditions of climate do not change and cannot be changed. It is for the farmer to adopt such methods as will enable him to make the best living possible and as much money as he can, besides, under those conditions. When the natural conditions of the western two- thirds of Kansas are fully understood and the demand of those conditions fully realized and such methods are applied to his farm operations as these conditions warrant, then farming will in the western two-thirds of Kansas become a different and more profitable game than it now is.

* * *

Reports on this year's plantings of feterita are coming in as per the request made in these columns a few weeks ago. The reports on the whole are more satisfactory than we believed they would be, based upon our examination of several fields in Central Kansas the first week in July. Numerous subscribers have sent head specimens harvested as early as July 20 and which specimens were at that time hard enough for feed. In other columns in this issue are printed letters from several growers and which indicate the value of this sorghum as an early feed crop. Our suggestion that feterita be planted as a source of early feed supply seems to have worked to the advantage of many Kansas farmers and we are now inclined to the belief that this suggestion is one which can be profitably followed year after year. At this writing there are farmers within the state who have been feeding feterita for two or three weeks and this on farms on which there was no grain feed carried over from last year and none available except through purchase. It is apparent, therefore, how valuable an early-maturing feed grain crop is to the farmers of Kansas in general. The most successful method of planting, according to the letters received, seems to have been that which involved the early prep-



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Mistakes may cost you thousands of dollars. You have absolute protection with a

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It is the most substantially built, the strongest, heaviest, most accurate wagon and stock scale you can buy at any price. Requires no pit. Can be erected by anybody. Channel steel frame will last a lifetime—Protected bearings—Cannot freeze. Used for weighing U. S. Mails. Unequalled accuracy.

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It's good for listed corn cultivation and just the thing the potato grower has been looking for.

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The "KALAMAZOO" is the silo for you! It answers every question—meets every demand that can be made in use. Your choice of Tile Block or seven kinds of wood. Thousands of satisfied users praise its perfect construction. Special improvements, found in no other silo, make the "KALAMAZOO" the one you need. Investigate now!

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Wheat and Clover

Many farmers stick to wheat raising mainly because clover follows it in the rotation. But why not get the best possible out of both crops? No crop returns better profit for the right fertilizer than wheat.

What is the right fertilizer? That depends on the soil and on what fertilizer you have used on it. The longer you have used phosphate the sooner it will pay you to balance it with

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aration of the ground by plowing and the planting of the seed in rows on the surface, either by the use of the common corn drill or by drill planters with furrow-opener attachment. The date of planting of those fields which matured grain about July 20, was May 5 to 10, which may be considered an early planting date for sorghums when viewed from the date on which they are generally planted in this state.

* * *

Correspondence indicates many poor stands, even in instances in which the ground was well prepared and the planting was not done so early as to affect germination in cold weather. However, these stands were from seed obtained in the bulk and of which the locality of its production, the method of storage and other antecedents were not known. Good stands seem to have been obtained from seed obtained in the head and which seed in most instances was obtained from the field and cared for by the man who was to plant it. One correspondent states that under no circumstances will he again plant the threshed seed of either kafir or feterita. He has this year received disappointing stands of both from the bulk seed. On the other hand stands from seed saved in the head were good. We have been strongly in favor of storing the seed of all sorghums in the head. This, because of the unavoidable heating tendency when threshed. Seed which on April 15 may show high germination, has been known to be low in germination and give poor stands when planted a week or ten days later. This, because of unavoidable heating when the weather becomes warm. Feterita, because of its soft seed, is more likely to heat than either cane or kafir which are seeds of harder shells. There is no doubt in the mind of the editor that seed held in the head and which if mature before gathering and not injured by frost, will have high vitality, and having such can be planted earlier than seed of low vitality and even early-maturing sorghums should, in our judgment, be planted as early as possible.

* * *

The second year's growth of feterita throughout Kansas indicates for it a greater value than was believed a year ago. There are many farmers, judging by what they write, who will next year grow feterita to the exclusion of kafir. We doubt the wisdom of this. We believe that kafir should be grown for forage on those farms on which a forage crop is needed, because its stalk has greater feeding value than the stalk of feterita or milo. For forage the kafir need not seed. At least it need not seed heavily. However, early-maturing kafir should be sought and compared with feterita. It is to be remembered that kafir generally is now of late maturity and when the early growing season is not favorable frequently does not mature grain in advance of frost. There are, however, thousands of acres of splendid row-planted kafir in Kansas this year which will outyield feterita. The seed of kafir has degenerated through careless handling to the point at which its value is much less than fifteen years ago. Farmers have on their hands the grading up and improvement of kafir—both in so far as type of head is concerned in order that heavier yields may be had, and also for earliness that it may mature on the early rainfall in the favorable early growing season, or in the unfavorable season mature at least before frost.

* * *

Also farmers have before them the necessity of maintaining feterita in its present state of purity, that the yield may not be reduced and also to maintain its earliness. To maintain these qualities in feterita the same general care is necessary as in the case of kafir. Feterita will cross-fertilize and mix with cane or broomcorn as readily as kafir will mix with these. So it is necessary to keep the feterita field as free from the plants of other sorghums as is possible. Also the seed of feterita should not be selected from a part of the field adjoining kafir or cane. The earliness of feterita as compared with the ordinary seed of these latter, however, is at present in its favor, because it is likely to be so far advanced that the late pollenization from kafir or cane will have no effect upon it. However, care is to be exercised in this respect. To maintain earliness the first-maturing feterita heads should be saved for seed. It will be well worth while for every grower to save sufficient of such heads for his own seed. It will be profitable, we think, so to do, for seed to be sold. It is recommended that the seed heads be taken only from the main stalk and be selected from erect stalks which have no branches or suckers or from stalks which have the smallest number of each. Select heads which are well filled at the tip and butt and which in outward appearance and interior construction conform to the type of head already illustrated in KANSAS FARMER. These directions in general apply to the methods of selecting the seed of kafir in order to maintain or to re-establish the earliness and the greatest usefulness of that plant. It is high time that plans be made for the saving of the seed with which next year's sorghum crops will be planted. The earliness, the dry weather evasion and the yield of the crop are dependent upon the kind of seed planted and each of these points is of such value to the farmer that he cannot afford to overlook them.

Mix Cut Stalks and Leaves in Silo.

Subscriber W. E. M., Dickinson County, says he has somewhere read that in silo filling the silage should be thoroughly mixed, and asks what this means.

It is essential that the cut corn, kafir or cane be so distributed that the heavier portions of the stalk do not lie in one place and the lighter portions in another in the silo. The unequal distribution of stalk and leaf is a condition which exists in the silo when the silage is elevated by a blower. This unequal distribution will cause the silage to settle unevenly, resulting in loss due to spoiling. During the process of filling the cut material should be kept slightly higher at the edges than in the center and well tramped close to the sides. It is not regarded as necessary to tramp the center of the silo, for the weight there is sufficient to insure thorough settling and packing. However, such time as is not needed in the tramping of the edges can be very profitably used in tramping the center. The more the silage is tramped during the process of filling, the more nearly the silo can be filled to its capacity.

Hold Feterita Seed in the Head.

I have fifteen acres of feterita that has been proven satisfactory this season. I planted on May 10 and the heads on August 1 were ripe. My advice would be to plant between May 10 and 20, always plowing the ground on the surface. The plants in my field are 8 feet high and the heads are well filled. It is a little bit the nicest crop I have ever raised.

If people would keep their seed in the head until spring I think they would have very little trouble to get a stand. If it continues dry I expect to have as much feterita on fifteen acres as I have kafir on fifty. For me it is making about three to seven heads to the grain planted.—H. M. KENNEY, Sedgwick County.

Cream and Milk Express Rates.

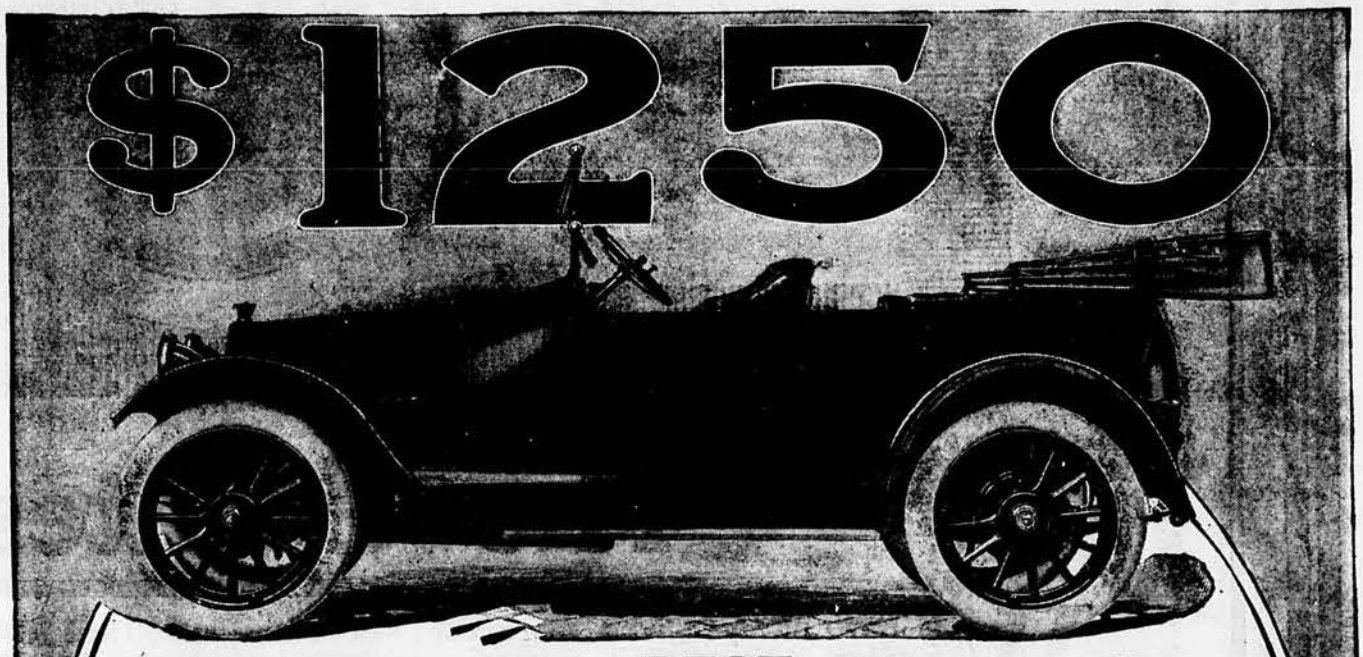
J. C. S., Ness County, asks if the rates for the transportation of cream by express were changed as a result of the Public Utilities Commission's recent investigation and reduction of rates.

The rates on cream for transportation have not been changed. The commission found that the express companies "should continue in effect between points in Kansas the existing mileage scale rate applying on milk and cream." It should be understood that the Interstate Commerce Commission some five or six years ago arranged a new mileage scale rate for interstate shipments of milk and cream and that immediately following the establishing of such rates the Kansas commission established a schedule of rates for shipments within the state which closely followed the scale established by the Interstate commission.

It may be of some interest to KANSAS FARMER folks to know that the Public Utilities Commission of Kansas evolved rates and which are now in force by the express companies which resulted in a general reduction of about 17 per cent on what are known as "merchandise rates." The commission eliminated the two-line rate and substituted a one-line rate. A minimum charge on merchandise of 21 cents was established instead of 25 cents. All special rates were abolished and the rates are now uniform on a mileage scale for every town in Kansas.

According to market reports, horses are averaging lower in price than a year ago. The biggest slump has been in the ordinary grades. It still pays to raise thoroughly good, well bred colts for market.

Mother Goose's "Simple Simon went to look if plums grew on a thistle" had no corner on folly; the farmer-dairyman who in these times looks for a living profit from an unimproved scrub herd has Simple Simon, as T. R. would say, "beaten to a frazzle."—Holstein-Friesian Bulletin.



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Fully equipped in every respect, Electric Self Starter, Electric Lighting, Power Tire Pump, and every one of the latest devices to secure comfort, accessibility and reliability.

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Light Weight
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Long Stroke, High-Speed L-Head Motors
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The year 1915 will not only be a Mitchell year, but it will be famous as a year in which the Mitchell establishes another standard of values in automobile building.

Those who have seen the new model—especially dealers—are not only enthusiastic, but are clamoring for the first cars from the factory.

Our Vice-President and Chief Engineer, John W. Bate, who designed the original Mitchell, designed the "1915" from stem to stern and all his ingenious ideas and practical engineering innovations have been utilized.

The result is a car that beats them all—at a price $500.00 less than anything approaching it.

In fact there is no comfort, no "safety first" appliance, no accessory that adds to the enjoyment of automobile riding that will not be found in this car.

Over 95% of the car is made right in Mitchell shops which cover acres upon acres of space.

No detail is skimped—everything is weighed, judged, measured, tested with critical correctnes which gives the great *service* quality for which the Mitchell is famous.

Read the specifications in another column.

Compare them with any other car and you will find the most in the Mitchell. But after all don't judge the new Mitchell until you've sat at the wheel of the new model—until you get the **personal touch.**

We invite you to get this **personal touch** at our expense. We'll put a car at your disposal.

In the meantime send for the new literature which tells the whole story. Ask for Book 108

The Mitchell Line for 1915

Mitchell Light Four—two and five passengers—4 cylinders—35 horse power—116 inch wheel base—34x4 tires, $1,250
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The Greatest Motor Car

WE have always given more car for less money than any other motor car manufacturer in the world.

We have always given a superior car, a more powerful car, a more practical car and the most economical car.

That is why more Overlands have been bought than any other similar type of car ever produced.

Now, with pride, we announce our latest car—Model 80—the greatest value this factory has ever placed on the market.

We wish particularly to call your attention to the fact that while this 1915 model has innumerable improvements, enlargements and refinements, *the price has not been advanced.*

This season we shall build 75,000 cars! This enormous increase in production again places us in the enviable and supreme position of being able to give still more value for still less money than any other manufacturer.

Following are the facts! Read each paragraph carefully!

Model 80 has a brand-new stream-line body. Its full sweeping stream-lines blend and harmonize perfectly with the balance of the symmetrical design. All visible lines are absolutely clean, unbroken and uninterrupted.

The new crowned moulded fenders, new rounded radiator, new hood slightly sloped, and flush U doors with disappearing hinges, contributing the additional touches of exterior grace and modishness which distinguish costly imported cars.

The new tonneau is much larger—both in width and in depth.

The new cushioned upholstery is also considerably deeper and softer.

This model is equipped with the finest electric starting and electric lighting system. All switches, in a compact switch box, are conveniently located on the steering column. Thus in the driving position, without stretching forward or bending down, you start the car, drive the car and control the electric horn and all head, side, tail, and dash lights.

This car has left-hand drive and center control.

The tires are larger this year, being 34 inch by 4 inch all around. These tires

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Upholstery, deeper d so
Windshield, rain on,
type, built-in
Crowned fenders
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Electric lights
High-tension ignitio
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Five-bearing crank t
Rear axle, floating e
Spring, rear, 3-4 e ic,
underslung
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Complete equipmen

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Two passenger Roadster $1050

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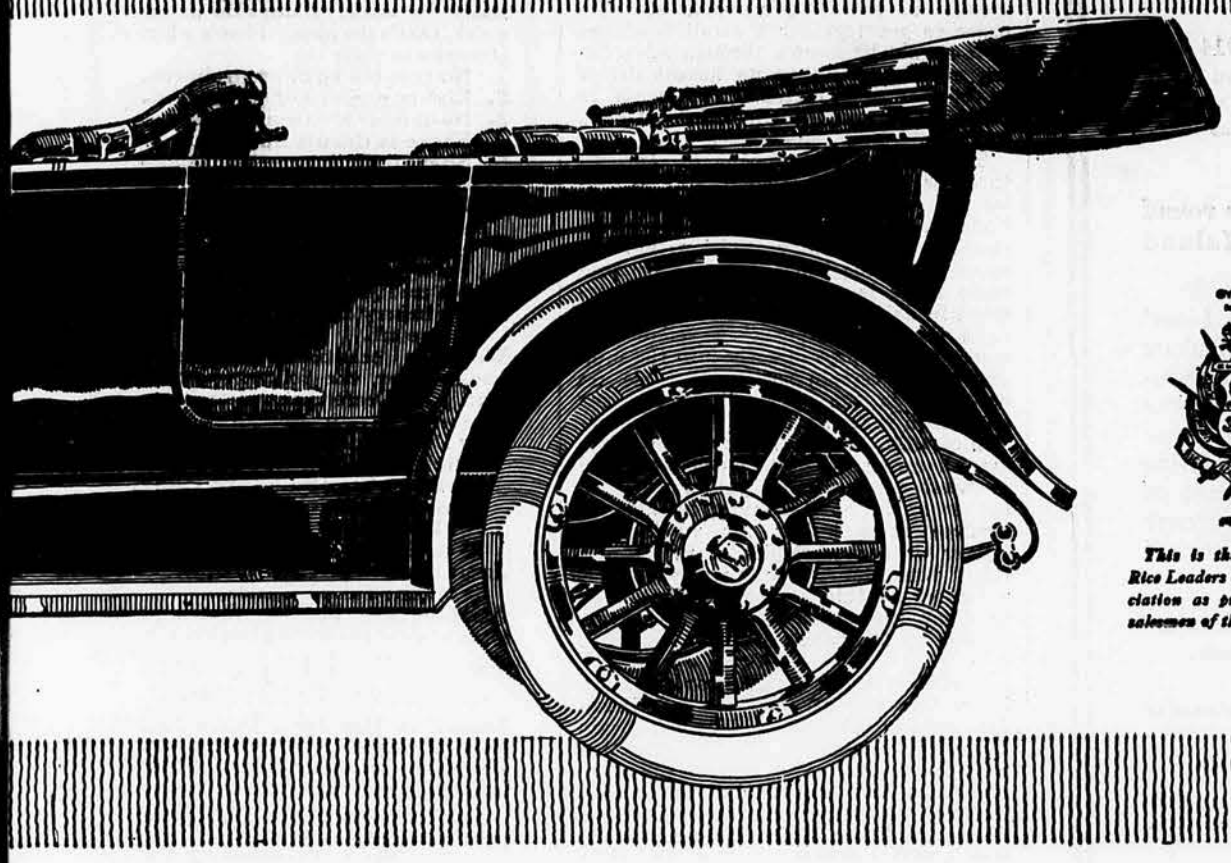

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Car Value Ever Offered

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4 electric, extra long,

14 inches
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Brewster green body

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can be quickly detached from the rims which are demountable. One extra rim furnished.

Ignition is high tension magneto, independent of starting and lighting system. It requires no dry cells

Fundamentally the chassis remains as before. The front axle is larger; the wheels are larger; the frame is heavier and stouter; gears are made of 3½% nickel steel; there are integral grease cups in spring bolts; and other mechanical refinements which are described in detail in our new catalogue.

But otherwise in no possible way could we improve the splendid Overland chassis that is giving such satisfactory service to 50,000 nineteen fourteen owners.

This new Overland rides with remarkable smoothness, taking the ruts and rough spots with the ease of the highest priced cars.

There is the famous, powerful, speedy, snappy, economical and quiet 35 horsepower Overland motor; and a long wheelbase of 114 inches.

This car comes complete. Electric starter, electric lights, built-in windshield, mohair top and boot, extra rim, jeweled magnetic speedometer, electric horn, robe rail, foot rest and curtain box.

This new model is ready for your inspection in practically every city and town in the country.

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Sales begin at Colorado Springs September 3, 1914, and at Limon, September 10, 1914. One-tenth purchase price, cash at time of sale, the balance in 18 equal annual payments with interest at 6 per cent. Most of the land has been appraised at $5.00 per acre.

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Inspect the land before the sale and select the exact place you want for a home.

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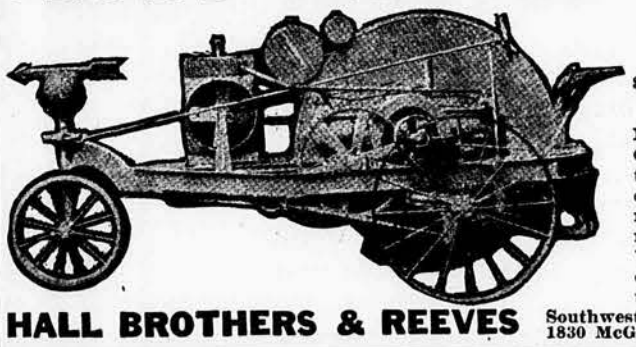

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Pulls two 14-inch plows. Costs less than good team. Plows 10 acres a day. Simplest, best, most economical tractor made. A proven success. Write today for catalog or come for demonstration.

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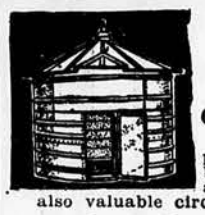

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The best metal grain bin for the price in the world. Defies competition. We make all styles. This is not our highest grade bin, but is splendid value. Keeps grain in perfect condition. Large door and other features. Ask for prices of different kinds and grades, also valuable circular giving opinions of experts on storing grain for higher prices.

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A California breeder has evolved a novel and effective method of disposing of surplus bulls to good advantage. He has a herd of some 300 pure-bred Holsteins and the ordinary method of selling the pure-bred males did not move these animals as promptly or as profitably as desired. He accordingly conceived the idea of offering herds of ten heifers and one male, and these herds sold readily at good prices. Before the males were all moved he had closed out the heifers and then the idea was conceived of buying heifers necessary to establish these small herds. The idea is novel and legitimate. There is a class of customers who will appreciate just such offerings. It will save them the trouble of searching a whole state in order to get together a small herd and if it should be known through advertising or otherwise that an honest dealer or breeder was matching up herds in this way he would not lack for business.

The Federal Department of Agriculture has put out a circular, several copies of which have reached KANSAS FARMER, in which is reported the investigation of the Dairy Division into the cause of butter being yellow. We presume there is a class of people interested in dairying who will hail with delight the information that yellow pigments in feed pass directly into the milk and that a certain portion of these are deposited in the body fat of the cow and which is drawn upon in the elaboration of milk. The every day farm dairyman, however, is not so much interested in what produces the yellow color in butter as in how he may be able to produce more butter fat whether of lighter or deeper shades of yellow. A lot of time and energy is wasted on the unimportant things in many lines and in dairy investigations there is no exception to the rule.

A contest which should prove of much interest to Kansas dairymen is a three-day butter fat test which will begin Thursday, September 15, in connection with the annual exhibition of the Kansas State Fair Association at Topeka. The test is under the supervision of George S. Hine, State Dairy Commissioner, and is designed to test the butter fat production of cows three years old and over and those under three years old, and classes are made for Holsteins, Jerseys, Guernseys, Ayrshires, Red Polls, Shorthorns and Brown Swiss, cows to be of pure breeding and registered. Another class is for cows three years old or over, or heifers any age, of any breed. In each class a $10 premium is offered for the cow winning the best position in her class. In addition to the prizes of the association, KANSAS FARMER is offering a silver cup to the owner of the cow or heifer, any age or breeding, making the best showing in the test. This butter fat test will prove of interest, we think, to the owners of good milking cows as well as to dairymen who are interested in the showing made by cows of their favorite breed. Cows in this test are not obliged to be entered in the regular fair classes and may be placed on the grounds for this test only. It is hoped by us that farm dairymen who have good milking grade cows will enter such animals in the grade class. This ought to be the big class in this test. This gives the grade cow a chance which she rarely has and there is no reason why a grade should not carry off the honors.

This is the season of year when the milk cows should be having some feed in addition to that which they get in the pasture. The most economical way of supplying this feed is through silage which was carried over from last winter's feeding and there are many farmers in Kansas who are now feeding silage night and morning. Many such farmers have good pastures, although the pasture condition throughout the state is generally poor. Most of those who are feeding silage have already on their farms the roughage necessary to fill their silos this fall and as a result are disposing of the held-over silage through extra feeding. One man recently advised the editor that all the cattle on his farm were getting a mess of silage twice a day and that he had never had cattle do so well or cows milk so well at this season of the year. In his silo were about thirty tons of silage which he was desirous of feeding before this year's crop was ready for cutting and while his cattle and cows did not need silage because pasture was good, he was feeding them just the same and was pleased with the results. There are, of course, hundreds of farms on which

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Unscrew One Nut—That's All

THE latest improvement on John Deere Sulky and Gang Plows is John Deere Quick Detachable Shares. Unscrew one nut and the share comes off—slip share on, tighten the one nut and you are ready for work. Shares on or off quick, that's the idea. Here's what it means to you:

1. No trouble to change shares.
2. Eighty percent of time saved.
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6. Resharpened or sprung shares can be drawn into place—no drift punch necessary.
7. No unequal strain on share.
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We have beautifully illustrated booklets on the following plows with John Deere Quick Detachable Shares:

New Deere Sulky and Gang. (High Lift Frame Plows).
John Deere Stag Sulky and Gang. (Low Lift Frameless Plows).
John Deere Two Way Sulky. (Side Hill or Irrigated Land).
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We want every farmer and landowner to have our illustrated circular. It describes the machine, its principle and advantages over all others. It gives testimonials from many farmers proving what it will do on wheat, alfalfa and other crops. It contains valuable information on how to prepare the soil for better results. Send for this circular today, whether you want to buy or not.

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The Silo Filler With the Direct Drive

Wonderful recent improvements of "Ohio" eclipse anything ever before produced. *One* lever controls *all* movements—reverses by wood friction *at finger pressure*. Self-feeder—with famous "Bull Dog" grip. Patented Direct Drive—*Shear cut—non-explosive, non-clogging*. Enormous tonnage *on half inch cut*—50 to 250 tons a day—6 to 15 h. p. 20-year durability. "Ohio-cut" silage famous—cuts all crops. Used by Experiment Stations everywhere. Guaranteed. Many big new features this year.

Write for folder B, free, also send 10c for 264-page book, "Modern Silage Methods."

THE SILVER MFG. CO.
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One Year to Pay!

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

30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog folder and "direct-from-factory" offer. Buy from the manufacturer and save half. (12)

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ON THE ROAD with a

Howell COMPLETE WHEELED

Riding Harrow

Goes Through ANY Farm Gate.

Any or all sections raised and lowered by a lever; a boy can handle easily—safe, as driver's seat is well to the rear.

Built of steel and malleable iron throughout, all parts swaged to place; no bolts or taps to lose. Teeth can be set to any pitch or laid flat for dragging, breaking stalks, etc.

Coiled spring shock absorber to prevent breaking in stump ground. Close hitch, easy and steady pull, no jerking, jumping or wobbling.

Ideal dry farming harrow, as the dirt is finely pulverized, making emulsion to hold moisture.

Factory to Farmer

This Harrow, invented by a farmer, is made by farmers and sold direct to farmers at very reasonable prices. Now is the time to post up on Harrows, so *write for catalogue and prices.*

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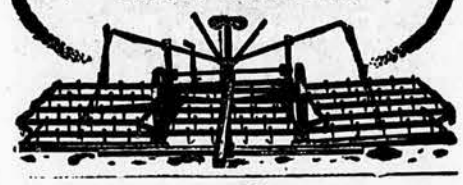

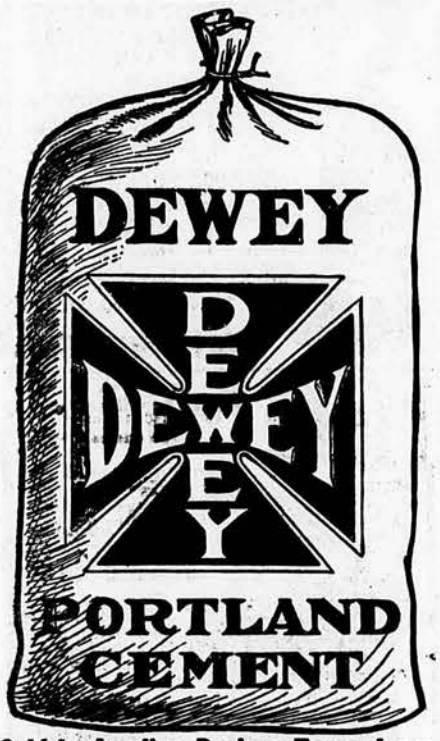

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It is the ONLY machine that packs the subsoil and leaves the ground loose on top. Makes best seed bed. Soil retains moisture and produces bigger crops.

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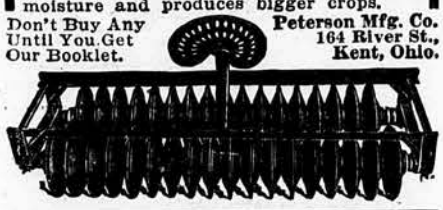

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By using our low down steel wheel wagon

Electric Handy Wagons

saves high lifting, lighten draft, don't rut roads. Spokes don't loosen—wheels don't dry out or rot. Write for free book on Wagons and Wheels.

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F. WYATT MFG. CO.,
906 N. Fifth St. Salina, Kansas.

there are no silos and many farms having silos on which no silage was carried over. For the milk cows on such farms it will be worth while to supply a feed of green corn, kafir or cane night and morning. This feeding can be done in such way as will not entail an amount of labor out of proportion to the advantages gained. It must be kept in mind that if the cow is to give a good flow of milk a little later in the season that the flow must not be lost or seriously reduced during the present period. On the other hand a cow which has been milking ten or eleven months and which is to freshen the middle of September or thereabouts, does not need the feed to maintain the milk flow, but needs it to lay on extra flesh and move the milk-producing organs to activity so that following freshening she may be able to produce milk in liberal quantities. The matter of supplying feed for the milk cow during the period of short pastures is important to every farmer who milks cows. No farmer can appreciate what feeding at such season of the year will do for the herd unless he has tried it. The use of green feed involves much more labor than the feeding of silage. The fall use of the silo is important and should be considered in the purchase or erection of the silo.

All the creameries located in Kansas, as well as those located outside the state but buying cream in Kansas, have adopted the cream grading plan of State Dairy Commissioner Hine and are buying cream under such plan. The action of all these creameries is to be commended. Co-operation in the enforcement of law for the public good is always to be commended. A direct shipping creamery at its plants within the state and at those plants without the state but which receive cream from Kansas, are not grading according to the plan of the dairy commissioner, but the company represents that it will purchase cream according to the grade of butter that cream will make upon its arrival at the churning point. It would seem, therefore, that such cream as is marketed within the state will be bought and paid for on the basis of its value for the quality of butter it will produce. The purchase of cream on such basis cannot help but operate to the advantage of the painstaking dairyman and also in the interest of dairying as a whole in Kansas. One creamery since its adoption of the grading system advises that 80 per cent of the total receipts of second grade cream bought by it was purchased on a second grade basis. This means that the receiver of cream, namely, the cream buyer, has under the grading plan been able to exercise fairly good judgment in determining cream of second grade quality as compared with cream of first grade quality. In other words, this result indicates that after only four weeks of instruction the cream receiving agent has been able to accurately grade 80 of each 100 cans he pronounced as second grade. Further familiarity with various qualities of cream and practice in grading should result in few patrons receiving erroneous grades. It is not stated by the creamery to which reference is above made, what proportion of its receipts was first grade and what proportion second grade. However, as stated in these columns, there is no reason why but a small percentage of the cream marketed should be other than first grade and so command the highest price. At any rate, it is to be hoped that both creameries and patrons will give the purchase and sale of cream on grade a careful and thorough trial for so long a time as is necessary to establish the advantages of such plan and the advisability of further pursuance.

Dickinson County Cow Testing Results.

The following is the report of cows of the Dickinson County Cow Testing Association which for July produced more than 35 pounds of butter fat and more than 800 pounds of milk:

Name of Owner.	Lbs. Milk.	Per Cent Test.	Lbs. Butter Fat.
A. B. Wilcox, H.	1,011	3.5	35.4
A. B. Wilcox, H.	1,053	3.8	40.2
A. B. Wilcox, H.	1,200	3.6	43.2
A. B. Wilcox, H.	1,077	3.7	39.8
A. B. Wilcox, H.	927	4.0	37.1
Sterling & Eisenh'r, J.	1,173	4.0	37.1
Sterling & Eisenh'r, J.	978	4.3	42.0
E. S. Engle & Son, H.	1,239	3.4	42.1
D. S. Engle, H.	1,053	4.0	42.1
D. S. Engle, H.	1,167	4.2	49.0
L. L. Engle, H.	936	3.8	35.8
O. L. Thisler, G.	891	4.0	35.6

"H" stands for Holstein; "J" for Jersey; "G" for Guernsey.

To date the best cow in the association is a grade Holstein which during the first seven months of 1914 produced 530.8 pounds of butter fat. The largest monthly product per cow was 107 pounds of butter fat and in five months this cow has produced 352.2 pounds of butter fat. Each of the above are grade Holsteins owned by Mr. Wilcox.

Have You a Cook Stove and a Watering Trough?

Then You Can Re-temper Acme Shares

To keep a hard, sharp, keen cutting plow share, you must have one that can be re-tempered after sharpening.

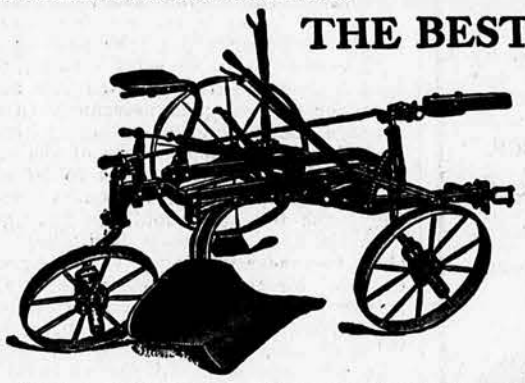
Other plow manufacturers **warn** you **not to re-temper** their shares for fear of breaking them. That means you must plow with **soft, dull** shares after the first re-sharpening.

Anyone Can Re-temper Acme Guaranteed Shares

You can re-temper **Acme Steel Shares** any number of times after re-sharpening, and we guarantee that they will not break either in the process or in the field. Keep them **hard, sharp** and with a "razor edge" their entire life. We take all the risk—you take none—the blacksmith takes none.

Acme Steel Shares are made by our **own** process in our **own** factory. They are used only on **Best Ever** and other Flying Dutchman Plows of our make.

THE BEST EVER PLOW



with **Acme Steel Shares** is the most economical for you to own. It is the strongest plow made—the lightest draft plow. It will turn more acres per day, with less wear and tear on the team than any other plow.

If **Best Ever** plows were equipped with ordinary 3-ply shares, used by other manufacturers—they would still be superior to any other plow on the market—but when you add to their many other advantages that of **Acme Guaranteed Shares,** you will agree with us that the equal of the **Best Ever** has never been produced.

Your Flying Dutchman Implement Dealer sells the BEST EVER. Look him up. Write us for our FREE BOOKLETS. DEPT. NO. 4

MOLINE PLOW CO., Moline, Illinois

OR NEAREST BRANCH HOUSE

WINCHESTER

"Repeater"

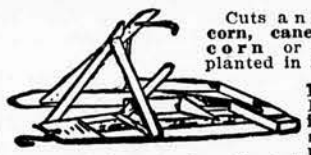
SMOKELESS POWDER SHOTGUN SHELLS

When it comes to getting a high grade shell at a reasonable price, the Winchester "Repeater" has the call among sportsmen who have tried all makes. Although moderate-priced, the "Repeater" is loaded with the best quality of powder and shot. The list of loads furnished in this shell cover most shooters' requirements, and all of them give a full measure of shooting satisfaction. Ask for Winchester Factory Loaded "Repeater," and look for the big **W** on the box. They are

HIGH QUALITY BUT MODERATE IN PRICE

TRADE MARK.

GREEN CORN CUTTER



Cuts and gathers corn, cane, kafir corn or anything planted in rows.

Runs easy. Long lasting. Thousands in use. Fully protected by patents. Send for free circulars.

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RYE—RYE

NEW CROP RYE FOR SEED.

Germinates perfectly. Makes splendid fall and winter pasture. Nothing better for green manuring. Will produce a heavy green crop to be plowed under either in the fall or spring. $1.00 per bushel; 10 bushels or over, 90c bushel, bags included, f. o. b. Topeka. Cash with order.

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Big Kansas Fair

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Harrow while you plow with a

"KRAMER" HARROW

Saves the MOISTURE, making the best possible seed bed.
Saves you TIME and LABOR.
Runs light, no extra horse needed.
Pulverizes ground thoroughly.

Retail Prices F. O. B. Factory:

For Sulky $10.50
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Larger size for three or four-bottom plows.
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A big lot of $1.50 house paint, bought for cash, to be sold quick at 75c per gallon. Will go fast. Hurry your orders. Send for color card.
We buy bankrupt stocks, fire damaged stocks, salvage buildings, have big stocks all the time of building material such as doors, window sash, hardware, plumbing fixtures.
Tell us what you want—will send prices by return mail. Will save you half.
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KENDALL'S SPAVIN CURE

—has saved thousands of dollars and thousands of horses. The old reliable cure for Spavin, Ringbone, Splint or lameness. For sale at all druggists. Price $1 per bottle, 6 for $5. "Treatise on the Horse" free at druggists or write to Dr. B. J. KENDALL COMPANY, Enosburg Falls, Vt., U. S. A. 5

CONCRETE SILOS

SAFE, PERMANENT

MODERATE COST

Hopper & Son, Manhattan, Kans.

LIVE STOCK

How About Colt Show?

"I think a good plan is to have the towns in the far corners of the county have each a separate colt show at which the prizes may be small, and then send the winners to a general show at the county seat," writes H. T. Nielsen, district agricultural agent in Northwest Kansas. "In this way there would be a real incentive for the man far from the county seat to get into the show with his colts, for if he can win a place at a small show he has at least a fair chance of winning something at the county show, and even the losers at the small show need not be debarred from entering again at the county show. And if the colts had to be taken a distance of twenty miles or more without the owners having some idea of their chances of being in the winning class, a great many might not take part at all.

"I would like to see a lot of colt shows held in Northwestern Kansas this summer, for it is a good movement to encourage the production of better horses and also to take better care of the ones already here. If a show is to be held in your community, those who have colts they wish to enter should be busy getting them in the very best shape to show to good advantage. Grooming will do a lot for them, but they should also be provided with the right kind of food. The mares should be fed well, and a little oil meal to help improve the colt's coat will add much to the appearance, and also make them thrive much better."

Paying for Condemned Cattle.

We notice in a recent issue of a Jefferson County paper that the county commissioners of that county have just paid the full appraised value of some cows which were condemned for tuberculosis and sent to the Kansas City stock yards. It appears that in some way no post mortem report was made on these cattle when they were slaughtered at the packing house. The cattle were condemned as the result of the tuberculin test and in accordance with the law the county is responsible to the owner for one-half of the appraised value of the cattle. It is necessary, however, that the cattle be tagged and sold on the market as condemned cattle and a post mortem report furnished showing the conditions as to the actual presence of tuberculosis. As the county was unable to show a report it became liable for the full value of the animals so condemned.

The handling of tuberculosis in connection with our dairy and breeding herds has come upon us so suddenly that it has found those in authority inexperienced as to the proper procedure to follow. The man losing these cows secured them with the supposition that they were healthy and could ill afford to stand the loss of the money he had put into them. The taxpayer may complain because he has to help pay for losses of this kind, but the wiping out of such a serious disease as tuberculosis in our dairy herds is a matter of greatest importance to the public at large. It is no more than right that the man who has innocently been compelled by law to stand such loss be reimbursed at public expense, since the loss was sustained in the interest of the public as a whole.

Cow Fails to Breed.

Our subscriber, C. D., of Sumner County, writes us that he has a valuable pure-bred cow that does not come in heat and he wishes to know what kind of yeast to use to make her breed. This cow has produced some high-priced calves and her failure to breed is quite a financial loss.

Dr. R. R. Dykstra, of the Agricultural College, furnishes the following information in reply to this inquiry:

"The yeast treatment is never used in animals when they fail to come in heat. It is used only in those cases where animals come in heat regularly, but fail to conceive. Ordinary yeast dissolved in water is used in the latter case.

"Failure to come in heat, such as the condition affecting your cow, is generally due to a diseased condition of the ovaries, and in practically all cases is impossible to treat.

"Many drugs have been used, such as Spanish flies, phosphorus, etc., and while these drugs frequently stimulate sexual appetite, they do not cause sexual power. There is at present a remedy on the market known as 'Vetol,' manufactured by Lehn & Fing, manufacturing chemists of New York City, which is claimed to be of value in conditions similar to that affecting your cow. You might write them for literature regarding Vetol. While I have never tried Vetol on animals, my personal experience with all other drugs has been that they are practically useless, and I believe the best thing you can do with your cow if she does not come in heat within a few months is to fatten her and dispose of her. Plenty of nourishing food, together with exercise, is always to be recommended in these conditions."

Green Corn for Hogs.

During the past few weeks the live stock editor has visited a great many farms where hogs are being grown. The great scarcity and high price of grain is apparent on many of these farms. Every effort possible is being made to keep the pigs growing satisfactorily with a minimum expenditure of money for the purchase of corn or other concentrated feeds. With such conditions existing there is bound to be a great temptation on all the hog farms to begin feeding the green corn as soon as possible. Forage alone is not sufficient for the growing pigs and every breeder realizes that if he expects to get his animals grown out properly they must have some more concentrated feed than alfalfa or other forage crops.

With the beginning of green corn feeding more or less digestive troubles are bound to arise. These troubles have been so frequent in some sections of the country that it has been common observation that many so-called cholera outbreaks were really nothing but the result of the injudicious use of green corn. Hogs which have been in dry lots without access to forage are almost certain to be affected when first fed green corn from the field.

The hog breeder and feeder is justified in using the new corn from his field as soon as possible, but he should use the greatest of caution in getting the hogs onto the new diet. The change in diet is a radical one and the first feeding of green corn should be extremely light. The hogs should be watched very closely and at the first symptoms of any digestive disorders the feed should be cut down and not increased until they are thoroughly normal again. We had an instance called to our attention only a few days ago where a bunch of young pigs were getting sick without apparent cause. The owner had cut down the ration and was watching the pigs, but apparently had not as yet suspected that the new corn which he had just begun to feed in small quantities might be responsible for the trouble.

Almost every year some early grain feed for hogs comes in handy on the average farm. It would be a splendid practice for the hog man to plant a small field of some very early variety of corn specially for this purpose. There are varieties which will have fairly well matured grain by the middle of July to the first of August. These varieties of corn are not desirable for general field planting, since they are small and do not produce large yields under ordinary conditions on the Kansas farm. As a source of early feed for hogs at a time of the year when grain is oftentimes scarce and high-priced, a little patch of corn maturing along in the middle of the summer is a big help in keeping the hogs growing as they should. We recently visited a breeder of pure-bred hogs in Pottawatomie County who had just such a patch of corn which he could begin to feed at time of the present writing. The hogs on this farm have been getting along on very scant rations and this early corn will come in most acceptably in pushing them at just the time when they are beginning to show the lack of feed most seriously.

Foals at this season need a little oats daily to keep them growing rapidly and to prepare them for weaning.

In hot weather all horses should have a good drink after eating their evening feed. Turn them out nights if possible.

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Certain-teed ROOFING

—and it means that the 3 biggest roofing mills in the world are behind the reliability of your purchase. There is no *test* by which you can judge roofing. The Certain-teed label is your protection.

Your dealer can furnish Certain-teed Roofing in rolls and shingles—made by the General Roofing Mfg. Co., *world's largest roofing manufacturers.* East St. Louis, Ill., Marseilles, Ill., York, Pa.

The PERFECTION METAL SILO

Chosen by Men of Experience

Eight years in use. Proved and Perfect. Makes best Silage—(Wisconsin Experiment Station Test). Permanently Proof Against Cracking, Shrinking and Blowing Down.

FIVE YEAR GUARANTEE

And Paid-Up Insurance Against Cyclones, Windstorms and Tornadoes.

Air Tight and Water Tight. Weather, Wind, Fire, Lightning and Vermin Proof. No Guys or Cables; No Hoops to Tighten. No Worry, Care or Annoyance of Any Kind. BIG NEW BOOK, "Turning Cornstalks Into Cash," FREE. Written by Farmers. Full of Dollars and Cents Information. Send for it today. Address PERFECTION METAL SILO CO. 2005 Jefferson, Topeka, Ks.

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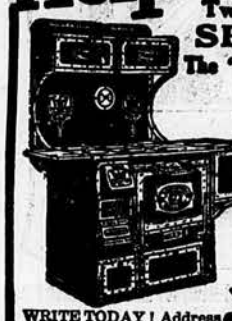
The "RANGE PROBLEM" and "CASH IN on the OLD STOVE"



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4,646-acre New Mexico ranch, fenced, good water, 7-room modern house, furnace, bath, etc.; barn and outbuildings, all new, built 1914; Santa Fe station on ranch, also post office, store, church and school. Price, $6.00 per acre, easy terms. **COOK & FRANCIS, Newton, Kansas.**

FREE CANADIAN HOMESTEADS.
Why pay $50.00 to be located? We give you full information where the best lands are in Western Canada and British Columbia that are close to railroad and town; name of guide on the ground; full directions to get maps and plats free; how to get homeseekers' tickets; everything you need to know and locate yourself, all for $3.00. Remit amount by P. O. money order and we will send you the complete information at once. **CANADIAN HOMESTEAD COMPANY, 73 Sixth St., Portland, Ore.** For reference, **The Farm Magazine Company,** 411 Panama Bldg., Portland, Ore.

IRRIGATED ALFALFA FARM

I will trade my irrigated alfalfa farm of 320 acres, every acre good, well pumping 1,500 gallons water per minute, 70 acres in alfalfa, located in the Plainview shallow water district. No junk considered.

J. WALTER DAY, OWNER, Plainview, Texas.

Have You Hay To Sell?

IF you have alfalfa hay to sell, you can find buyers through KANSAS FARMER Classified Advertising columns. The hay crop east of Kansas is short and Missouri and Illinois farmers are writing us for the addresses of Kansas farmers who have hay to sell. They want to do business direct with the grower.

A Classified Ad in KANSAS FARMER will put you in touch with buyers for your hay. The rate is only four cents per word for each insertion.

Otey's Second 1914 Sensational Good E.Nuff-Crimson Wonder Sale

At Craig's Barn on Main Street,

Winfield, Kansas, Wednesday, August, 26, 1914

Last February, I predicted in my advertisements that March 11 would be a RED LETTER DAY in Duroc-Jersey history in the southwest states. On that date our great sale averaged $62.12, the highest average with one exception ever made in the southwest states, so far as I know. Yet on account of the 1913 drouth the conditions were perhaps the worst ever known to hold a successful sale. Now Wednesday, August 26, we hold our second sensational sale of the year. We sell 40 great tried sows and gilts and six boars, worth looking after.

The great "planet" of our herd is Good E. Nuff Again King 35203, the sensational Grand Champion of the Kansas State Fair 1913, the "hottest" show Kansas ever had. He is the "crown" of the longest unbroken line of Grand Champions known to me in the pure-bred world, the climax of the seventh generation of the most skillful and scientific selection and line-breeding of the "Burbanks" of the Durocs, the very summit of the triumph of the constructive breeder's art, and stands today worthy of the appellation "King of the Durocs." He is the boar that never stood second, a Grand Champion that is not ashamed to face a camera for his picture instead of sending to a foundry to have it "cast." More royal blood perhaps never converged into one stream than flows in his veins. He is the boar that at 3½ years old has gained more fame than many great boars in their lifetime. He is worthy the place of "planet" in any herd.

The "Star" that revolves closest to this "planet" is Crimson Wonder 4th, a "star" of the very first magnitude. Six of his first sires were famous Grand Champions. Crimson Wonder 3rd, Crimson Wonder Again, and Crimson Wonder I Am, form his direct line of sires. On dam's side, B. & C.'s Col., Prince of Cols., and Red Wonder. What Blackenburg Hero, the eighth sire was, I do not know. Could a pedigree be richer? But he is a worthy climax to his ancestors. Last fall at 13 months old with but few weeks' fitting, he won second in class and was picked by J. R. Pfander and other good judges for Grand Champion. Now, Mr. Breeder, I predict, and my reputation as a breeder rests upon it, that this GOOD E. NUFF-CRIMSON WONDER CROSS is going to eclipse any cross thus far attempted in the southwest states, and equal perhaps to any cross in Duroc history. Now is the time to get in on it.

The third "Star" in this constellation is Otey's Dream, a spring yearling sired by Good E. Nuff Again King. Nine men out of every ten who see them say "Otey's Dream is the best boar on the place," the brightest "star" in the entire constellation. Whether he is to "eclipse" the first "star" and displace the "Old Planet" time will tell. I shall not make any prediction on that now. Come and see these boars. See the offering. Stop at St. James as our guests. Enjoy our hospitality. Meet the breeders from several states. Exchange ideas. Make your own decision, and bid or withhold as your judgment dictates. But you can't afford not to come.

Auctioneers: H. S. Duncan, S. A. Savage. Fieldman, O. W. Devine.

Send bids to O. W. Devine, representing this paper. Send for catalog, and remember the date is Wednesday, August 26.

W. W. OTEY & SON, WINFIELD, KANSAS

Breeders' Directory

The following classified list contains the names of many of the reliable breeders of pure-bred live stock. They will gladly answer your inquiries. Your name should be in the list. If interested, write Live Stock Department, Kansas Farmer, for further information.

HEREFORD CATTLE.
H. V. Baldeck, Wellington, Kan.

HOLSTEIN CATTLE.
T. M. Ewing, Independence, Kan.
S. E. Ross, Route 4, Creston, Iowa.

ANGUS CATTLE.
R. Blickensdorfer, Lebanon, Mo.

JERSEY CATTLE.
C. J. Morck, Storden, Minn.

AYRSHIRE CATTLE.
Loveland Farm Co., Omaha, Neb.

POLLED DURHAM CATTLE.
J. H. Walker, Lathrop, Mo.

BERKSHIRE HOGS.
N. H. Gentry, Sedalia, Mo.

SHORTHORNS.
G. A. Laude & Sons, Rose, Kan.
C. H. White, Burlington, Kan.

SHROPSHIRE SHEEP.
Locust Lawn Farm, Oakland, Ill.
John M. Goodnight, Fairgrove, Mo.

POLAND CHINA HOGS.
P. M. Anderson, Lathrop, Mo.
Wm. Griffeon, Mitchellville, Iowa.
Henry Koch, Edina, Mo.
W. A. Prewett, Asherville, Kan.

DUROC JERSEY HOGS.
D. O. Bancroft, Osborne, Kan.
Judah Bros., Hiattville, Kan.

HAMPSHIRE HOGS.
H. D. DeKalb, DeKalb, Iowa.

SHORTHORN CATTLE

LOOKABAUGH'S SHORTHORNS

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

TENNEHOLM SHORTHORNS

Two good young bulls; one 18 months, the other 13 months old; both red; wish to dispose of them soon. Prices reduced to $90 and $80.
E. S. MYERS, Chanute, Kansas.

GUERNSEY CATTLE

CHOICE YEARLING BULL FOR SALE.
Also registered bull calves. Write for prices.
R. C. KRUEGER, Burlington, Kan.

FOR SALE—Five registered Guernsey bulls. **Phil R. Toll, 430 Midland Building, Kansas City, Mo.**

THE STRAY LIST

MAX VAN HALL, COUNTY CLERK, Hamilton County. Two (2) one-year-old horse colts, color bay, good size and flesh, branded O.IT on left shoulder low down; black mane and tail. Appraised value, $25 each. One (1) bay mare, 2 or 3 years old, weight about 900 lbs., branded on left shoulder low down QL (the Q is upside down); black mane and tail. Appraised value $50. Were taken up on the 25th day of June, 1914, by W. H. Brown, whose residence is Syracuse in said county.

SHORTHORN CATTLE

OXFORD HERD SHORTHORN CATTLE.
For Sale—Young bulls and females at farmers' prices, for dual purpose cattle. Come and see me. Farm on Strang line near Overland Park.
DR. W. C. HARKEY, Lenexa, Kansas.

RED POLLED CATTLE

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

RED POLLED CATTLE

For Sale—A choice lot of cows, bulls and heifers, all registered, with good quality.
AULD BROS., Frankfort, Kansas.

COBURN HERD RED POLLED CATTLE AND PERCHERON HORSES
Twelve extra good young bulls. Some extra fine young stallions, among them first prize and champion of Topeka Fair. Also young cows and heifers.
GROENMILLER & SON, Pomona, Kansas.

RILEY COUNTY BREEDING FARM.
Red Polls headed by the last son of Cremo. Bulls all sold. **Percherons** headed by son of Casino. Visit herd.
ED NICKELSON, Leonardville, Kan.

HAMPSHIRE HOGS

Hillwood Hampshires

The prize winning herd—13 big, high-class fall boars—14 big, high-quality fall gilts—130 choice spring pigs. All sired by our great herd boars, out of big, high-class dams. All immunized. Satisfaction guaranteed. Write for prices and pedigrees. Both are right.
J. Q. EDWARDS, Smithville, Mo.

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

Attractive prices for a few choice bred sows and bred gilts bred for September and October litters. 200 spring pigs, pairs or trios, reasonable. **F. C. WITTORFF, Medora, Kansas.**

Registered Hampshire Hogs for Sale

Tried sows and gilts of very best breeding and individuality, bred for fall farrow. Prices right. **WM. INGE & COMPANY, Independence, Kansas.**

SPRINGDALE FARM HAMPSHIRES

Hampshire pigs, both sexes, May and April farrow, nicely belted. Buy them young and make money in the growth. Save on express. Priced right. Your patronage solicited.
S. E. ROSS, Route 4, Creston, Iowa.

BRED Gilts, serviceable boars, January and February pigs. Best breeding, well marked. Singly, pairs and trios. Satisfaction guaranteed. Prices reasonable.
S. E. SMITH, Route 5, Box 18, Lyons, Kan.

HAMPSHIRE HOGS

All ages. Best families. Champion bred stock. Most profitable and most popular breed. Write your wants.
GEO. MOSHER,
3612 Locust St. Kansas City, Mo.

FIELD NOTES

Don't fail to attend the Poland China sale of Ray Johnston's at South Mound, Kan., on Thursday, August 20. There will be bargains for all who want good Poland Chinas.

On August 20, W. T. Hutchison of Cleveland, Mo., will offer at public auction fifty head of the best sows and fall yearlings that will be sold this year. They will average better than 300 pounds each and none weighs under 275 pounds. Seventeen are daughters of Queen's Wonder, the Crimson Wonder Again, H. A.'s Queen boar that has sired so much good stuff for Mr. Hutchison; twelve are by Drexel's Pride; eleven by Col. Gano Again, a son of the noted Col. Gano; seven by Drexel's Pride 2d; others are by Wonder Chief, Beauty's Model Top and Pilot Instructor. They are bred to Iowa Model, a son of Missouri Model Top, the boar that sired several of the tops in Iowa sales last winter. Mr. Hutchison is fitting Iowa Model for the fall shows, as he is an exceptional prospect. Others are bred to Valley Chief by S. & C.'s Valley Chief, Drexel Wonder and W. H. Crimson Col. The S. & C.'s Valley Chief boar is one that promises to make good when matured and litters by him should be appreciated. This lot of fall gilts is by far the best that Mr. Hutchison has ever raised or offered. They are showing heavy in pig and as all are from large even litters they will undoubtedly produce large litters this fall and be ready to rebreed for early spring litters. If you want good Duroc seed for a herd or need some new blood, this will be the place to buy. Catalogs can be had for the asking.

The board of experts appointed by the National Rifle Association to decide upon the ammunition to be used by the American rifle team in the contest for the historic Palma trophy, which is to be shot for at Ottawa, Canada, next September, has selected the cartridges made by the Winchester Repeating Arms Company. The board recently held a competitive test of various makes of cartridges at Sea Girt, N. J., and in the test Winchester cartridges outshot all others. The testing was done at 1,000 yards, 32 targets being shot with each make or cartridge. The measurements of the targets showed that those made with Winchester cartridges had an average radius of only 6.85 inches. The figures of the other contestants were Remington—U. M. C., 7.30 inches; United States Cartridge Company, 8.34 inches, and Frankford Arsenal, 12.72 inches. The targets made by Winchester cartridges were not only the best of any in the competition, but they established a new high record for accuracy in such a contest.

Hampshire Hogs with Quality.

In this issue we change the ad of F. C. Wittorff, of Medora, Kan. Mr. Wittorff has one of the best herds we know of. He is one of the best feeders in the country. He always keeps his hogs in good condition and grows the proper size. He is fitting a show herd for the leading fairs this fall and we ask all lovers of this breed to look up this herd. Mr. Wittorff has one gilt with her first litter that farrowed twelve pigs and is raising ten of them. Mr. Wittorff will probably show this gilt at the Kansas State Fair at Hutchinson, with the balance of his show herd. Please read the changed advertisement and write Mr. Wottorff about his hogs. Kindly mention Kansas Farmer.

Anyone wanting high-class registered Guernsey bulls should get in touch with Phil R. Toll, 430 Midland Building, Kansas City, Mo. He is offering five good ones for sale at prices that will interest breeders and dairymen. Look up his card and write him for prices. Please mention Kansas Farmer.

We are claiming in this issue, October 14, 1914, as the date for the Jersey cattle sale of the Parkendale Farm Co., Kane, Ill. This sale will include 160 head of the choicest Jerseys to be sold this season. It will pay those interested in high-class Jersey cattle to keep this sale date in mind. The sale will be managed by B. C. Settles of Palmyra, Mo.

JACKSON COUNTY BREEDERS' ASSOCIATION

MOST PROGRESSIVE BREEDERS OF JACKSON COUNTY UNDER THIS HEAD

Bruce Saunders, President — Devere Hafter, Secretary

SHORTHORNS.

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

ABERDEEN ANGUS.

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

POLLED DURHAMS.

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

HOLSTEINS.

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

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

BUFFALO AGUINALDO DOEDE heads Shadeland farm herd. Dam, Buffalo Aggie Beets, the world's second greatest junior 3-year-old cow. Young bulls for sale. David Coleman & Sons, Denison, Kan.

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

JACKS AND JENNETS.

M. H. ROLLER & SON
Circleville, Kan.
Fourteen big jacks and 25 jennets for sale. One imported Percheron and one high-grade Belgian stallion.

PERCHERONS FOR SALE.
A few nice farms for sale. Write JAS. C. HILL, Holton, Kansas.

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

HERFORDS.

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

Butter Production—Milk Capacity.
Bred in young Jersey bulls I am offering for sale. Guaranteed as represented. Prices right. Send for pedigrees and descriptions. visitors welcome. R. A. Gilliland, Route 1, Mayetta, Kansas.

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

Spring Hill Dairy Farm Bull Calves by sons of Gamboge Oxford Princess, 2 lbs. 6¼ oz. butter; Diploma's Fair Maiden, 11,400 lbs. milk, 9 mos. Also females. J. B. PORTER & SON. Mayetta, Kansas.

MAPLE LAWN DAIRY FARM
Fontain's Valentine heads our herd. Unregistered cows for sale.
W. R. LINTON, Denison, Kan.

POLAND CHINAS.

DODSON BIG SMOOTH KIND.—Ten big fall boars, ready for light service; sired by Sunny Colossus. Fourteen gilts will be bred to Orange Chief.
WALTER DODSON, Denison, Kan.

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

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

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

SPRING PIGS by Major Jim, Blue Valley Buster and A Jumbo Wonder and out of Gold Metal, Major Jim, Model Look, Big Bone Pete and What's Ex sows. Priced reasonable. O. B. Clemetson, Holton, Kan.

HORSES AND MULES

HORSES AND MULES.

It is a big saving for you to buy at this time of year a growthy young stud from my big bunch registered Percherons, 1, 2, 3 and 4 years old. Uncommonly large bone and in pasture condition are developing to immense size like their imported sires and dams. Farm raised and farm priced. Fast direct trains from Kansas City and St. Joseph.
FRED CHANDLER, ROUTE 7, CHARITON, IOWA.

JACKS AND JENNETS
20 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned, broken to mares and prompt servers. A few good jennets for sale. Come and see me.
PHIL WALKER, Moline, Elk Co., Kansas.

Black REGISTERED Jack
For Sale. 15¾ hands high, six years old, a good breeder. Also Duroc Jersey hogs.
LOUIS KOENIG, Solomon, Kansas.

BERKSHIRE HOGS

Large English **BERKSHIRES**
Choice bred sows and gilts; fall farrow. Choice pigs sired by prize winning boars, either sex.
H. E. CONROY, Nortonville, Kansas.

HEREFORD CATTLE

HEREFORD BULLS FOR SALE.
Choice young registered Hereford bulls, sired by Dan Shadeland 363260, out of Anxiety and Lord Wilton bred dams.
C. F. Behrent, Oronoque, Norton Co., Kan.

POLLED DURHAM CATTLE

ROAN HERO 3613 - 229963
THE INTERNATIONAL CHAMPION heads my herd of Double Standard Polled Durhams. Few choice young bulls for sale. Mo. Pac. Railway 17 miles southeast of Topeka, Kansas. Farm adjoins town. Inspection invited.
D. C. VAN NICE, Richland, Kansas

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

MULE FOOT HOGS

CAMPBELL'S MULEFOOT HOGS.
LISTEN—If you want the genuine big bone Mulefoot hogs, write for Campbell's rockbottom prices on young boars; gilts, bred sows; also herd boar; absolutely the best to be had.
A. I. CAMPBELL, Rice, Kansas.

POLAND CHINAS

BIG-BONED SPOTTED POLANDS.
Seventy-five splendid old original big-boned Spotted Poland China Spring Pigs to offer; single pigs, pairs or trios; 20 gilts bred for August and September farrow. Write your wants before buying elsewhere. I will save you money. Satisfaction guaranteed. Also Jersey bulls and bred heifers.
THE ENNIS FARM, Horine Station, Mo.
(Just South of St. Louis.)

Pioneer Herd Big-Type Poland Chinas.
Choice lot of sows and gilts for sale, bred for summer and fall litters to the three times grand champion boar, Smuggler S58913, A178859, and Logan Price. Booking orders for spring pigs in pairs or trios. Prices reasonable.
OLIVIER & SONS, Danville, Kansas.

POLAND CHINA BOARS.
For Sale—Four extra good fall yearling boars sired by D. Wonder by B. Wonder by Blain's Wonder and out of our best sows. They have size and quality and are priced right. First order gets choice. Write us.
SULLIVAN BROS., Moran, Kansas.

WEDD & SONS, BARGAINS
Twenty choice big-type Poland China spring boars at prices that will move them. Also a few spring gilts. Everything guaranteed as represented.
GEO. WEDD & SONS, Spring Hill, Kansas.

POLAND CHINA HERD BOARS.
A few extra good fall boars sired by Miami Chief. The best we ever raised. They will please anyone wanting a first-class herd boar. Come and see them. You can make no mistake.
P. L. WARE & SON, Paola, Kansas.

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

A ORANGE AGAIN
Heads our Poland Chinas. Choice big fall boars, also 30 spring boars. Prices right.
HUBERT J. GRIFFITHS, Clay Center, Kan.

LYNN GROVE SPOTTED POLANDS.
Choice bred gilts, outstanding boars, spring pigs by Spotted Boy, Cainesville Boy, Billy Sunday and Lucky Judge; dams, Brandywine, Clipper, Goodenough, Budwiser, Lineville Chief and Clipton breeding.
J. O. RILEY & SON, Cainsville, Mo.

ROY JOHNSTON'S POLAND CHINAS.
Early spring gilts. Pigs of March and April farrow. Boars of serviceable age. The quality herd of strictly big-type breeding. Priced reasonable.
ROY JOHNSTON, South Mound, Kansas.

PAN LOOK HEADS HERD.
Biggest possible big-type breeding. Fall boars and gilts sired by him for sale. Be your own judge. Out of Expansion bred dams. JAS. ARKELL, Junction City, Kan.

POLAND CHINAS

MOORE & SON'S POLANDS
Choice male pigs by "Choice Goods," a splendid big-type boar of the great Tecumseh family and out of large, prolific sows of best big-type breeding. Very reasonable.
F. E. MOORE, Gardner, Kansas.

Faulkner's Famous Spotted Polands
We are not the originator, but the preserver, of the Old Original Big-Boned Spotted Polands. Write your wants. Address
H. L. FAULKNER, Box K, Jamesport, Mo.

HOLSTEIN CATTLE.

Pure-bred Registered **HOLSTEIN CATTLE**
Quantity of production and persistency of milking during long periods are well known characteristics of Holsteins. Dropping her first calf at about two years old the average cow, if well cared for, will produce from 5,000 to 6,000 pounds of milk in ten months, and she will increase the production every year until, at five years, she will give from 7,000 to 9,000 pounds.
If fed to their ability to digest and assimilate food, many Holsteins will exceed this production.
Send for FREE Illustrated Descriptive Booklets.
Holstein-Friesian Asso., F. L. Houghton, Sec'y, Box 114, Brattleboro, Vt.

HOLSTEINS and GUERNSEYS FOR SALE
Thirty head of large high-grade nicely-marked Holstein heifers, 3 and 3 years old, due to freshen in September and October. A select lot of 40 large fancy-marked light-colored yearling heifers. Also 20 head of registered and high-grade Guernsey heifers 1 and 2 years old.
T. R. MAURER, Ashland, Ohio.

M. E. MOORE & CO.
CAMERON, MISSOURI.
BULL CALVES FROM A. R. O. COWS. Sired by Sir Korndyke Imperial 53683. Calves suitable for heading registered herds.

FOR SALE—High grade Holstein and Guernsey heifer calves crated for shipment to any point, and satisfaction guaranteed; $18 each; for sixty days. We will please you.
MEADOW GLEN YARDS, Whitewater, Wis.

CHOICE YOUNG HOLSTEIN BULLS
Backed by Records. Priced to Sell.
JOHN RENSINK, Boyden, Iowa.

SIR SEGIS CORNUCOPIA—Herd bull for sale or trade. Nearest dams, 28.12 pounds butter, seven days. Choice young registered bulls. G. REGIER, Whitewater, Kansas.

CHOICE HOLSTEIN COWS.
Well bred cows, two-year-old heifers and 25 choice heifer calves, all good colors. Prices reasonable.
GEO. F. DERBY, Lawrence, Kansas.

HOLSTEIN COWS AND HEIFERS.
For quick sale—car grade Holstein cows and heifers; ten heifer calves; ten grade Guernsey cows and heifers; four registered Holstein bulls ready for service; all tested; priced right.
HENRY GLISSMAN, Sta. B, Omaha, Neb.

SUNFLOWER HERD HOLSTEINS
Oskaloosa, Kan. Watch this space for the best thing in Holsteins.
F. J. SEARLE, Prop., Oskaloosa, Kansas.

CORYDALE FARM HOLSTEINS
Headed by Jewel Paul Butter Boy, Reg. No. 94245. Five choice registered bulls, ages 4 to 9 months, from large richly bred cows with strong A. R. O. backing. Nicely marked. Splendid dairy type. Reasonable prices. L. F. CORY, Belleville, Kan.

HOLSTEINS FOR SALE.
High-grade cows and springing heifers, also registered bulls ready to use. Exceptionally good breeding. Write
Springdale Stock Ranch, Concordia, Kansas.

Butter Bred Holsteins
For Sale—A herd bull, also choice bull calves. Prices very reasonable. Write today. These bargains will not last long.
J. P. MAST, Scranton, Kan.

GOLDEN BELT HOLSTEIN HERD.
Prince Hadria at head of herd. He has 26 A. R. O. sisters, 21 brothers and several daughters. Extra choice young bulls for sale out of 600-pound A. R. O. dams. Farm near town.
W. E. BENTLEY, Manhattan, Kansas.

SIXTY HEAD of registered and high-grade Holstein cows and heifers, also a few registered bull calves.
HIGGINBOTHAM BROS.
Rossville, Kansas.

HOLSTEIN BULL CALVES always on hand, and worth the price.
H. B. COWLES, Topeka, Kansas.

OHIO IMPROVED CHESTERS

MAPLE LEAF O.I.C's.
We are offering two fine fall boars, a few good gilts, spring pigs sired by our grand champion boar, Don Ben 2d 3181; can please you in both quality and price.
R. W. GAGE, Mount Ida, Kansas.

WALKER'S O. I. C. HOGS.
Write for prices.
G. A. WALKER, Bogard, Missouri.

DUTCH BELTED CATTLE.

DUTCH BELTED BULL CALVES.
Best Dairy Breeding.
JAMES CLEMMENS, Kansasville, Wis.

JERSEY CATTLE

GLENWELLS FARM
GRANDVIEW, MO.
Western Home of
RALEIGHS EMINENTS
Bull Calves, $35.00 and up, and some Bred Females.

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

FOR SALE—TWO YOUNG BULLS
One 15 months old, sired by Landseer Eminent, a grandson of Eminent 2d.
One 6 weeks old by Chalkey's Tommy, son of Stockwell Fern Lad. Prices right.
DR. J. H. LOMAX, Sta. D, St. Joseph, Mo.

TWO JANUARY BULL CALVES.
Out of high producing dams; Flying Fox and Golden Fern's Lad breeding; for sale at very low prices.
D. A. KRAMER, Washington, Kan.

BENFER JERSEY CATTLE.
February bull calf for sale; sire, Sultan of Comfortholme; dam, imported Sultan's Peri; fawn color; solid except white tongue and switch. Price, $50.
E. L. M. BENFER, Leona, Kansas.

ALPHA DELL FARM JERSEYS.
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