

KANSAS FARMER

For the improvement of the Farm and Home

Volume 52, Number 34.

TOPEKA, KANSAS, AUGUST 22, 1914.

Established 1863. \$1 a Year

SPREAD the straw! So to do is to return to the soil those elements which are necessary for the most certain continued production of crops. Millions of acres are starving for the fertility and humus which the straw back can give.

Wheat straw contains nitrogen, phosphorus and potassium—each an essential plant food—to the amount of \$2.50 per ton if bought in the market as commercial fertilizer. Every man knows the value of soil fertilizer—and of money. Then it is not good business to throw away \$2.50 worth of either through burning a ton of straw.

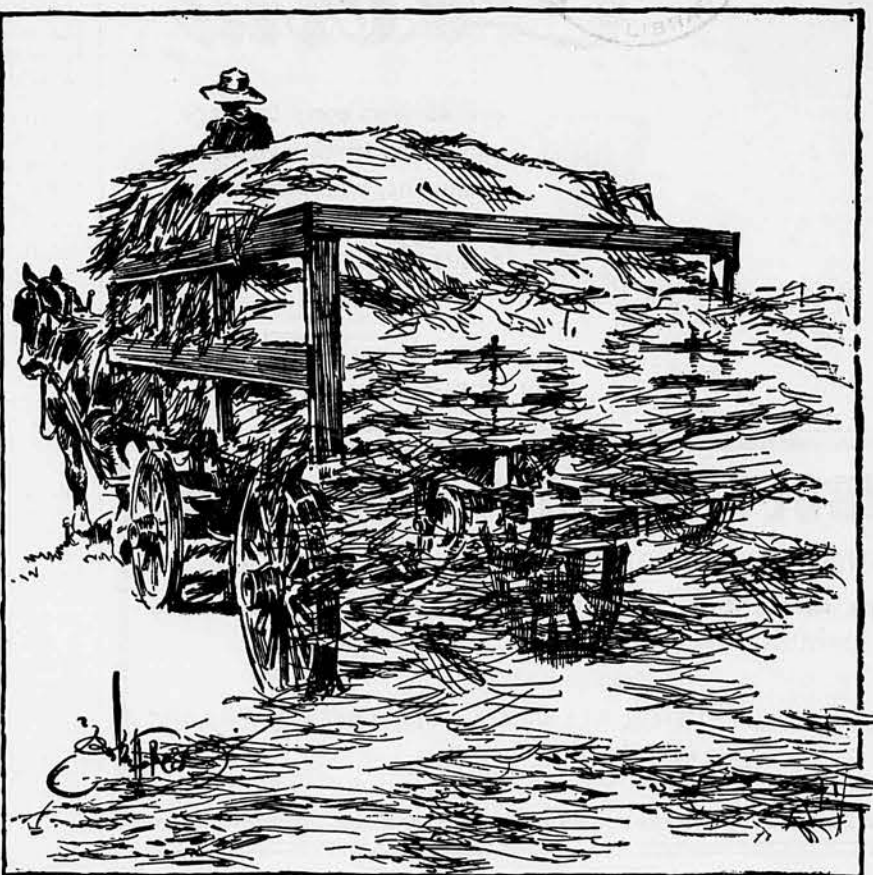
The soil needs the straw for another reason—because the decaying vegetable matter increases its water-holding capacity. Fertility has little value unless made soluble by water and so available for the plant. The humus of decayed vegetable matter will enable the rains to make better crops.

This same decaying vegetable matter prevents washing and that's another reason for working the straw back into the soil. Then, also, to spread the straw on the field following seeding or in the spring prevents soil blowing—a condition which becomes worse and worse as the humus supply decreases.

The use of the straw spreader makes spreading easy and practicable. The straw spreader is as essential as the manure spreader and no farm can be operated at a maximum of profit without the use of both.

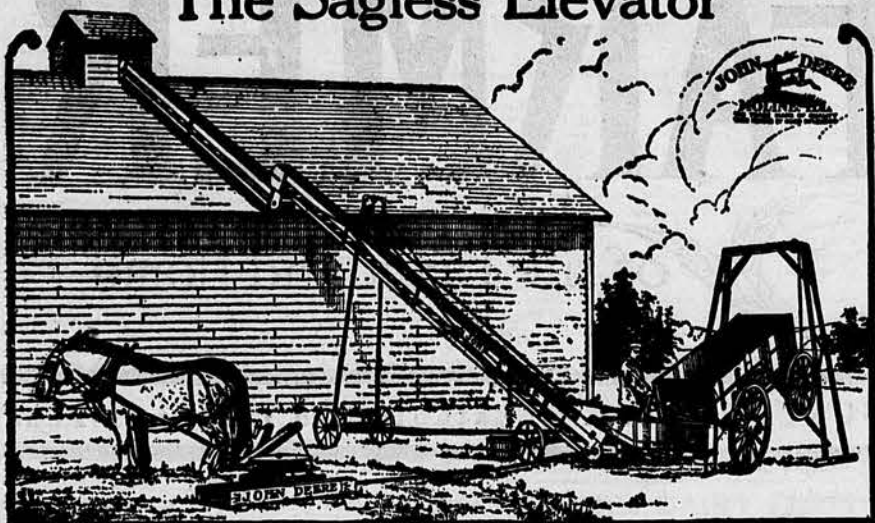
To burn straw when land is starving for the elements of plant food necessary to produce maximum crops, or when needing vegetable matter that it may absorb and hold water, is a crime. Do not be a criminal!

—T. A. B.



*Don't Be a Criminal—Give the Farm a
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Isn't this sufficient argument to fill the school building to overflowing?

War Effect On Farm Products

Close View By Kansas Farmers' Correspondent On Market Conditions

WITH no sound of cannon to be heard in the agricultural Middle West, it may be difficult for the unobserving farmer to appreciate the tremendous significance of the terrible war in Europe on the business of the producers of this section. The war, however, it is becoming more and more apparent, is entering into almost every phase of the business of farmers of the United States. In some lines it is proving or promises to prove financially beneficial; in others the reverse is true. Therefore, sober thinking is necessary at this time in order that the farmer may take advantage of the opportunities which the conflict has created and perhaps overcome the disadvantages.

Wheat dealers, at this writing, are still uncertain as to the reopening of a broad foreign demand for the surplus grain of Kansas and other states. Most exporters, however, appear to be confident of a resumption of business with England, France and Belgium, at least. If this is the case, it will mean millions to the wheat farmers of the Southwest, including Kansas. Already the price of wheat is 15 to 20 cents per bushel higher than the low point in the market the first half of July. To Kansas alone, with a crop of 175,000,000 bushels, if not more, a 15-cent rise means an enhancement of more than \$25,000,000 in value. This allows for the fact that farmers have already sold a portion of the crop at the low prices of June and July. But the marketing of wheat from farms to date in Kansas, which cannot be estimated accurately, is probably not in excess of 30,000,000 bushels. The bulk of the Kansas crop is therefore yet to be sold by the growers.

HIGH PRICES PROMISED FOR WHEAT.

In the event the present war is prolonged and great Britain fails to obtain mastery of the seas in the near future, wheat prices may suffer a setback and it may be necessary for farmers to hold the crop back longer than now anticipated. But holding promises to pay well, even if it is inconvenient. The shortage in the world's production of wheat this year is becoming more pronounced daily, the United States being the only land with more than last year. In Austria-Hungary, Germany, France, Serbia and parts of Russia vast quantities of wheat are going to waste because the producers have been withdrawn from fields to join armies. And think of the probable immense decrease in the 1914 fall wheat planting in Europe if the war continues for only a few months more!

Europe must eat. Wheat is one of the most economical foods, and Europe is going to need our wheat badly sooner or later. Grain dealers generally agree that we will obtain good prices for our surplus in the next year. Just now sentiment in the grain trade indicates that prices may be most attractive late this winter or next spring and summer, as Europe will have exhausted her domestic supplies by that time and will then begin to realize the inevitable shortage of her 1915 crop because of limited plantings in the fall season just approaching.

COTTON AND COTTONSEED PRODUCTS DOWN.
After passing from the bright future for wheat, it may be well, perhaps, to take a glance at a market which has already suffered and which may suffer more from the war in Europe. The trade in cotton mules, which forms 75 per cent of all the mules handled at Kansas City, is at a standstill. A year ago this time mule dealers were heavy buyers of cotton feeding mules at record prices. In the trade in southern horses, the class of light weight animals purchased by cotton growers, there was activity a year ago, but extreme dullness is the rule now. Prices are on the down grade. Here is the reason: The southern cotton growers depend on Europe to buy about 70 per cent of their cotton crop. Europe may buy very little because England and Germany, the world's two largest cotton spinners, are at war. So there is gloom among cotton growers, who are appealing to congress and individual states to tide them over with the loans during the war. Under such a situation, the South can hardly be expected to buy many mules or horses. Of course, if the war ends soon, the outlook will change. Otherwise, the thing for farmers to do is to prepare to hold their surplus cotton mules and southern horses over. Any extensive marketing may break cotton mule prices \$25 a head, if not more, under existing conditions. Southern horses may break sharply, too, if holding is not general,

which, of course, may affect the heavy eastern grades sympathetically to a degree. As Europe is losing vast numbers of horses in the war, an export demand may develop in the future, so this is a time of calmness among those having cotton mules and southern horses to sell.

While dwelling on the situation in cotton as it affects the horse and mule market, it is pertinent to call attention to another phase of the southern agricultural industry from which Kansas and other horse and mule producers of the corn belt may profit. Europe purchased more than 500,000 tons of cottonseed cake and meal last year. Her buying is an important factor in the trade in that valuable feed. Europe is not buying on account of the war and may buy little in the next year. So there will be a far greater quantity available for feeders of cattle, dairymen and other users of cottonseed meal and cake. Already the price of these feeds has declined \$3 per ton in the face of sharp advance in corn. Usually, cottonseed feed advances when corn rises sharply. There is talk of even lower prices for cottonseed meal and cake. Therefore, KANSAS FARMER readers should not be led into contracting for the feed ahead, as is often done in normal times, unless very, very cheap prices are offered. No one knows how low the market will go, but it has no strong undertone at the \$3 decline.

CORN AND OATS ADVANCE.

Corn and oats have been advancing sharply on the dry weather over a large portion of the corn belt. It is believed, however, that corn has just about reached a top level for the present. The estimated yield of corn in the United States for 1914 is now placed at about 2,600,000,000 bushels, against 2,446,988,000 bushels in 1913 and 3,124,746,000 bushels in 1912 the record corn year. Kansas is now credited with an outlook for about 130,000,000 bushels, against 23,424,000 bushels in 1913 and 174,285,000 bushels in 1912. Argentine corn exports to the United States have been cut off by the demoralized ocean traffic conditions. With reports of reduced crops of oats in Canada and Russia and hope of the development of an export outlet in Europe on account of the war, there is a feeling among some grain men that coarse grain prices will be helped by the conflict. The report of the purchase of 10,000 tons of hay in Canada for the British army is significant in this connection, as Canada is an exporter of hay to the New England states, paying \$2 per ton duty to send the feed across the northern border in normal times.

OUTLOOK FOR BEEF, PORK AND MUTTON.

In the trade in cattle, hogs and sheep, much uncertainty is apparent. Temporarily, war orders from Europe have helped the market. But will they continue large? Will our mining and other industrial enterprises employing thousands of laborers prosper while the European war is on? The answers to these two questions will assist materially in determining the future of live stock prices. Feeders should watch closely the developments in industrial and commercial fields in planning feeding operations. Whether reduced production in Europe will bring heavy foreign buying of our meats is a question which cannot be answered, as the foreigners may be so impoverished financially by the struggle now on that they will be able to take far less than they may need. However, foreign demand has not been an important factor in our live stock market, excepting pork, in the last few years.

SUGAR GROWERS SHOULD PROFIT.

The sugar beet growers of Western Kansas and other parts of the United States should profit liberally from the war, sugar prices having already advanced sensationally. Germany is the biggest sugar producer in the world, which is one of the reasons for the advances.

Apple growers are worried because of the danger of losing temporarily the export outlet for 2,000,000 barrels of apples, the recent annual average of this country.

Eggs may feel the stimulus of British buying, Russia being an exporter to England, but unable to ship for the present. Butter may be helped, as foreign exports to this country, which increased after the reduction in the duty last year, probably will be checked.

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KANSAS FARMER

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

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

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

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

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OBSERVE FLY-FREE DATE.

Do not sow wheat too early. There is danger that many KANSAS FARMER folks will go to seeding just as soon after the first of September as rain enough has come to put the ground in condition. There were a good many farmers here and there over the eastern two-thirds of Kansas who did this very thing last year and practically all of them sustained some damage from Hessian fly, while an occasional farmer lost his crop. Take note of the map on page seven of this week's issue of KANSAS FARMER and observe the fly-free seeding date for your locality. When you have learned this date for your section, do not sow wheat in advance of it. If you do, you take long chances on serious damage to the crop and possibly total loss.

The two lines on which the dates are printed trace the experimental sowings of wheat across the state. These sowings have been made now each year for seven years and the results indicate that wheat sown on these dates has been so free from fly as to result in little or no injury therefrom. The western third of the state is not subject to damage from Hessian fly. It has scarcely been heard of west of Ellis County, but in the eastern two-thirds of Kansas wheat growers each year suffer more or less from damage. In recent years this section of the state has not been free from fly. It was in 1908 that the most serious outbreak occurred. In that year the injury ranged from 5 to 50 per cent with a total loss of about ten million bushels. The 1914 damage was serious in spots only, the total damage being comparatively small, but the loss to occasional individual farmers being serious. The fly is present throughout the eastern two-thirds and exists in such numbers and is so distributed as to accomplish serious damage next season unless the well known control methods are observed. If the wheat growers of the western two-thirds of Kansas would observe for a few successive years those methods of control known to be effective in combating the Hessian fly, it would be possible to rid the wheat fields of the fly. So this is a good time to study control measures and to so perform the work in advance of seeding that the damage from fly next year will be reduced to a minimum.

The infestation of fly in the fall wheat comes from two sources—the stubble of the previous crop and volunteer wheat. It is wise to disk stubble immediately after harvest. This starts the volunteer wheat and results in the early emergence of the fly. The disking to a very great degree exposes the flaxseeds in the stubble and this exposure is fatal to a considerable percentage of them. Following disking three or four weeks the ground should be plowed to a depth of at least six inches and all stubble and volunteer wheat buried under at least three inches of soil. Immediately following plowing the ground should be packed and worked into a firm seed bed. By this method it will be impossible for the fly to reach the surface. The above methods, briefly stated, are effective in controlling the fly and are also in line with the best known methods of preparing a good seed bed.

In many sections on account of dry weather this season during plowing time the volunteer wheat has been slow to start and plowing has been so difficult that to thoroughly cover the stubble and to make a firm seed bed has been difficult. Thousands of acres of wheat will be sown on land which has not been plowed at all and on which the volunteer wheat may not start until later rains come, so that it has not been possible to follow the above control methods to the letter. In the case of failure to plow, the disking of the stubble and the exposure of the fly to the elements will destroy a considerable percentage, but the volunteer wheat will not start until it rains. So it would seem advisable to allow the volunteer wheat to grow and the fly to take up its winter quarters therein and then before seeding

destroy it either by plowing or by severe disking. This procedure may seem to many farmers to insure the loss of a wheat crop through late seeding, but the chances for a crop following late seeding are manifestly better than through early seeding because such seeding is doomed to severe loss by the fly.

Observance of the fly-free dates shown by the map will give wheat growers additional time in which to work up a seed bed and at the same time destroy the fly. The admonition, however, is to delay the seeding of wheat in the various localities until the fly-free date or later and in the meantime expend such labor as is necessary on the wheat field to get it into condition for seeding, to start the volunteer wheat, to destroy the growth of wheat and weeds and so have the field as free from fly as is possible.

SAVE THE STRAW.

It is safe to guess that thousands of tons of straw from this year's wheat crop have already been burned. The editor has seen some half dozen large stacks burning. These in the glorious Kaw Valley, near Topeka. There is, of course, a surplus of wheat straw this year—that is, more than any wheat-growing farmer can use during the fall and winter as bedding for stock. The stacking of straw is a thing of the past. The wind stackers are designed for no purpose other than that of keeping the straw away from the machine, so it is rarely that a farmer figures on the value of wheat straw as a feed and because the only use he will make of it is for bedding, accounts for his failure to stack it and keep it in good condition. There is no better bedding than wheat straw. A reserve of it should be held for bedding on every farm on which there are horses, cattle and hogs, for we have seen years in Kansas when bedding even was scarce. The more straw that can be used for bedding, the more of that straw will be returned to the land where it belongs with the manure which it as bedding has accumulated.

It has been figured that the straw from a 40-acre wheat field is worth at least \$100 in fertilizing constituents alone. This value can be realized from the straw if it is put through the barnyard and the feed lot as bedding and is used to absorb and hold the liquid excrement which is the most valuable portion of the manure. Wheat straw contains nitrogen, phosphorus and potassium, essential plant foods and the presence of which must be found in all soils in sufficient quantities to produce crops. If these constituents were bought in the market as commercial fertilizers in such amounts as they exist in a ton of wheat straw, they would cost \$2.50. When straw is burned, a loss of \$2.50 per ton is sustained. It is not good business to throw away \$2.50 gold pieces—a thing which is actually done when a ton of straw is burned. This value is increased through the comfort afforded live stock by comfortable bedding and through the saving of fertility in the manure which is lost unless bedding be provided in liberal quantities.

Straw placed on the fields supplies not only the above constituents necessary to the growth of the plant, but the decayed vegetable matter increases the water-holding capacity of the soil. A liberal supply of vegetable matter in the soil enables the rains to produce better crops. The presence of vegetable matter also prevents the soil from baking following heavy or dashing rains. The presence of vegetable matter maintains the soil in better physical condition, expediting plowing following wet spells, and makes plowing easier during dry spells. These same advantages follow the plowing under of wheat stubble and corn stalks. These should not be burned. In sections in which there is a tendency to soil blowing, the spreading of straw on the field will prevent blowing.

It seems, therefore, that there are sufficient advantages through the saving of straw to warrant its utilization to as great an extent as possible through the

barn and feed lot and such as cannot be used in this way should be spread on the land. To undertake to spread with a fork is laborious and unsatisfactory. The straw spreader makes the distribution of straw easy and effective. This job can be done by one man and during the fall and winter and early spring the slack time cannot be better employed. For illustration showing the straw spreader at work, see first page of this issue of KANSAS FARMER.

SPECIAL INSURANCE LEGISLATION.

A bill which provides that no insurance company shall be permitted to use the mails for securing insurance upon persons or property situated in any state or territory in the United States when the laws of said state or territory prohibit the company from transacting insurance business within that state, has recently been introduced into the House and Senate. We think there is no prospect of such a bill being enacted into law, but the proposal, nevertheless, shows the extent to which special legislation will be pursued.

There is only one insurance company doing business in the United States by mail exclusively, and that is the Postal Life Insurance Company. This company believes that it can sell insurance by mail cheaper than through agents and so save considerable money for the insured, and this is certainly a commendable object. It has done business a number of years and is in good standing with the insurance department of the state of New York in which state it is incorporated.

The insurance departments of the various states would naturally be opposed to mail order insurance and so would favor agency insurance. It is safe to say that mail order insurance will be continued when honestly conducted just as long as honest groceries, hardware, etc., are disposed of through mail order.

Wednesday, August 26, will be "at home" day at the Fort Hays Brank Experiment Station and those in charge of the work there will be glad to have all farmers and farmers' sons visit the station on that date. The morning will be devoted to the inspection of the experimental feed plots—grain sorghums, variety sorghums, forage crops adapted to dry farming regions, etc. In the afternoon there will be a meeting in the park for the informal discussion of questions arising in the minds of visitors. The station authorities have planned to have in progress on the above date, silage cutting, the construction of a pit silo, the feeding of silage, and several other interesting and instructive operations of value to every man who tills the soil or who feeds and cares for live stock. Coffee and ice water will be furnished free to the visitors. It is suggested that visitors bring a basket dinner and make the day one for recreation as well as for instruction and beneficial suggestions.

In connection with the announcement of speakers for the Grange on Farmers' Day at the Topeka State Fair, September 16, we tagged Alfred Docking as "State Lecturer," whereas he is in fact chairman of the committee on state-wide co-operation and our good friend, L. S. Fry, is State Lecturer. On behalf of the Grange, Mr. Docking will on the above date define co-operation as now understood by the Grange and show its necessity—not alone in economics, but in the all-around life of the farmer. Mr. Reedon, Master of the State Grange, will discuss the standing of the Grange as to present and past achievements.

There is nothing in the talk that the importation of Canada wheat into the United States has reduced or otherwise affected the market price of that grain in this country. We do not have free wheat from Canada and will not have in all probability until Canada lets down the bars to us—a thing that country has not yet seen fit to do.

GRAIN SORGHUM PRIZES.

KANSAS FARMER folks who show grain sorghums at their local or county fairs and who desire to compete for prizes at the International Dry Farming Congress at Wichita, October 7 to 17, must exhibit twenty heads instead of ten heads, as stated in KANSAS FARMER of last week. This is because the dry farming classification requires twenty heads instead of ten heads as is usually required.

At your county fair in competition for KANSAS FARMER premiums and premiums offered by the fair you will in all probability be permitted to show only ten heads. However, when you are gathering heads, select ten additional heads of as nearly equal quality as possible. After having exhibited at your local fair, add the ten specimens which you did not show and ship the twenty heads to KANSAS FARMER, Topeka, Kan., express or postage prepaid, with your name and post office address plainly written on the outside of the package. Your exhibit will be entered by us at the International Dry Farming Congress and you will receive such prizes as are there won, but the specimens are to become the property of KANSAS FARMER and deserving specimens will be shown in the name of the grower at the Panama-Pacific Exposition.

The schedule of prizes offered by the International Dry Farming Congress are \$3 for first, \$2 for second, and \$1 for third, for twenty heads of black-hulled white and red kafir. The same prizes are offered for twenty heads of standard yellow and dwarf red milo; the same for twenty heads of feterita, twenty heads or durra, and twenty heads of Jerusalem corn.

Special premiums are \$5 in gold by the Israel Investment Company, Wichita, Kan., for the best twenty-five heads of feterita. The Indiana Silo Company, Kansas City, Mo., will give a silo valued at \$250, for the best yield of silage from one acre of kafir or milo, yield to be weighed, field measured and results attested by affidavit of three reputable neighbors of contestant and samples of field are to be shown. J. T. Chappelle, of Wichita, Kan., will give \$5 in cash for the best twenty heads of kafir, any variety. KANSAS FARMER will give the sweepstakes prizes, which are \$25 for the best twenty heads of any variety of kafir and milo, and for the best twenty heads of feterita or Sudan durra.

The Dry Farming Congress is offering prizes of \$3, \$2 and \$1 for the best peck of kafir seed. For the best half bushel of kafir seed, the Oliver Chilled Plow Works, South Bend, Ind., will give one Oliver No. 1 gang plow, value \$60.

It will be seen from the above that grain sorghum growers who will expend a little time in selecting suitable specimens, have a chance to win quite a bit of money and a number of prizes which have an actual cash value. This showing of premiums should result in a competition which will demonstrate the extent of sorghum growing within this state.

The premium list of the Hutchinson, Kansas, State Fair is ready for distribution and can be had upon application to A. L. Sponsler, secretary. A number of new educational features will be introduced at this fair this year, among which are a dairy and silo school at which experts will give advice regarding all phases of the two subjects. The outlook for a large exhibit of live stock was never better. It is the aim of the management to increase the extent of exhibits and educational features each year and so make the fair more and more deserving of patronage. Every effort is being made to have this year's fair larger, more educational and entertaining than any former exhibition. The dates are September 12 to 19.

To be a scientific farmer requires an education comparable in breadth and thoroughness with that of the engineer or physician, and probably much more thorough than that of the lawyer or preacher.—Thomas Nixon Carver.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

IN spots throughout Kansas this year there was a good deal of smut in the wheat. If there was smut in your field or in your community, the chances are that the seed you will sow will be infected. Smut is carried from farm to farm in the threshing machine and to avoid the effect of smut upon next year's crop the seed you sow should be treated unless you are sure that it is not smut-infected, and there is really no way of knowing whether or not the smut spores do exist. P. H. Ross, the agricultural agent for Leavenworth County, has spread broadcast over his county circulars urging farmers to treat seed wheat for smut. Because of the prevalence of smut in that county his circular indicates one of the ways in which the agricultural agent can be helpful in a practical way and also how he can assist the farmer in being forehanded.

The following is an efficient treatment for smut in wheat:

The formalin treatment consists of treating the seed with a solution of commercial formalin in water. The formalin should be guaranteed to contain 40 per cent of formaldehyde gas by volume. If there is any doubt as to its strength, a half pint sample should be sent to the state agricultural experiment station for analysis. The formalin is mixed with the water at the rate of one pound of formalin to 45 gallons of water.

Use two tubs or half barrels with handles. A hole is bored at the bottom of each tub. The hole is fitted with a plug and covered with a wire screen on the inside of the tub so that the grain cannot pass through. One tub is set above the other.

The upper tub is then filled two-thirds full with the formalin solution and the seed poured in. As the seed is poured in and stirred the smut balls, chaff and light kernels rise to the surface and are skimmed off. When the skimming is completed the plug is removed, and the formalin solution is allowed to drain into the tub beneath.

The grain is then removed and spread out to dry. The empty tub is placed on the ground, the other on the stand, and the process is continued, more of the solution being added when necessary.

This treatment is very inexpensive and when thoroughly done will absolutely prevent the growth of smut.

Estimating Crop Condition.

O. C. G., Ottawa County, asks how the reporters for the Federal Department of Agriculture arrive at the conditions of the various crops reported by them.

The question can best be answered by observing the instructions below given by the chief of the bureau of crop estimates to one of his reporters in reply to the following question:

"We have had only one good rain in two months and the hay is short and thin; I placed an estimate of 40 per cent of a full crop. However, a timely rain would increase the yield, as there is a lot of small, immature stocks that could grow yet; a good rain tonight or tomorrow might increase the yield to 60 per cent of a full crop. The question is: Should I increase my estimate on the possibility of the rain, or should I report it as I think it would be if our present weather conditions continue?"

The following answer was given by the chief of the bureau:

"It is my opinion that under such conditions I would report a figure somewhat above 40 but also below 60, being influenced as to the exact figure by the reasonable probability that there will be rain in the near future. If I estimated that the probability is about equal that it will or will not rain, the condition should be reported as 50. If there is greater probability that it will rain than that it will not rain, I would put the figure somewhere between 50 and 60, but if there is greater probability that it will not rain, I would put the figure somewhere between 40 and 50, the precise figure depending upon my estimate of the degree of probability one way or another of the coming of rain. Any condition figure given should reflect one's best judgment of the probable outcome of the crop, assuming normal conditions to prevail from the time of the report to the close of the season."

Heading After Two Months.

I know of four fields of feterita that have made a good growth. All these fields have a good stand with the exception of one and it was planted early enough for early kafir and was probably

planted too thin. One field was planted about May 7 and it has made a good stand and the outside row on August 1 was beginning to show white seed.

My field contains about two acres. It was planted on fall broken sod that laid untouched until about corn planting time, then it was single disked, and later rolled. The ground became very weedy and the seed was listed June 2 and did not have any dirt thrown about it until two months after planting. It gave a good stand with a lister plate that planted at the rate of fifteen acres to the bushel. It was after two months of growth as high as the horses' backs and beginning to head, so it has not made a slow growth in this part of the state.—NEAL SIMONDS, Comanche County.

Crop Diversity on Eighty-Acre Farm.

Subscriber J. E. W., Dickinson County, writes that he obtained the seed of feterita in bulk from a seedsman and also a premium package with a paper subscription and neither seed gave him a good stand. Such stand as was obtained, however, has produced stalks considerably higher than the kafir planted at the same time, but the stalks of feterita will make little feed because of the scarcity of blades. The feterita may make as much seed per stalk as the kafir, but he is in doubt about that. Both the feterita and the kafir were

and if it were so used the live stock carried could exceed the above suggested number. This farm could also support a flock of sheep. The sheep would keep the corn field clean and would also find their living on the wheat and oat stubble for several weeks of each year. A farm fenced for sheep will permit transfer of these animals from one field to another and the cost of growing them would scarcely be noticed. During the winter season they will eat roughage and silage.

We are confident that many a man who owns eighty acres of land only, is discouraged and is not doing his best because he feels that his acreage is too small. The 160-acre farm undoubtedly is a more profitable size of farm, but the 80-acre man can do well if the farm is properly managed.

Spoiled Silage Due to Construction.

Subscriber C. N. B., Montgomery County, writes that he has a 16 x 30 stave silo built over a pit and that the pit wall projects six inches inside of the staves and that last spring when he reached the silage at the top of the pit a layer eighteen inches deep was spoiled, and inquires the cause of spoilage.

This spoilage was undoubtedly due to the fact that the diameter of the pit was less than that portion of the silo above the pit. This smaller diameter, together with the existence of the shoulder or extension of the pit wall inside



COMFORTABLE AND REASONABLY CLEAN MILKING QUARTERS AND SUCH AS CAN BE PROVIDED IN ANY BARN.—STEEL STALLS AND STANCHIONS AT LITTLE COST WOULD BE FAR MORE SATISFACTORY

headed on August 3 and looking fine. The subscriber writes: "As insurance against failure of grain crop, I sowed wheat, oats, corn, kafir and feterita, and now find that I did not need the insurance, for all are a fine crop. Wheat will make 25 bushels per acre, oats 30, and corn 60 to 75, although it is a little early to state definitely regarding corn. Corn is well eared and the grain is denting."

"On this eighty-acre farm I have an abundance of grass in my twenty-acre pasture; fifteen tons of alfalfa hay in the barn, ten acres of wheat, ten of oats, twenty more of corn, six of kafir and feterita. I also have eight head of horses and colts, five milk cows and sixteen hogs."

"On account of wet weather a great deal of corn in the community laid itself by and those who planted a large acreage have a heavy growth of weeds which look bad and is a serious condition for a corn field at this time of the year."

The above is printed that KANSAS FARMER folks may know what acreage of the various crops is grown on an eighty-acre farm. The chances are that the satisfactory yield of crops is due largely to the thorough preparation of the fields before planting and good cultivation during the growing season. A farmer who has only sixty acres of cultivated land and plenty of horse power, as this subscriber evidently has, surely should be able to get his crops into the ground in good season and in splendid condition. It is our idea that this subscriber is not maintaining on this farm nearly so much live stock as is warranted. It is to be assumed that his five cows are good milkers, but if he has the help available he could easily keep ten cows; in fact with no one but himself to do the milking he could keep this number of cows. The sorghum crops on this farm ought to go into the silo

the staves, prevented the settling of the silage. Because of these conditions the silage in the pit settled away from that above the pit and that above was prevented from settling into the pit because of the sharp shoulder. In the space air collected and spoiled the silage.

It is desirable to increase the capacity of a stave silo, or for that matter other silos built above the ground by excavating four or five feet below the ground, but the diameter of that portion below the ground should be the same as that above the ground. In other words, the side wall should be as nearly as possible perpendicular from the top to bottom of the silo.

If the subscriber plastered onto the dirt in making the pit portion of the silo, the trouble can be corrected by additional excavation. If the pit is surrounded with monolithic concrete wall, then correction will involve a great deal of labor. We would chisel off the shoulder and make the slope gradual. It would be cheaper to do this and take chances on correcting the trouble than to rebuild the structure. We have seen pits the walls of which extended toward the center two inches inside the staves and the pit shoulder so gradual in its slope that no spoilage was due to failure of silage to settle.

Gas in Pit Silo Dangerous.

Subscriber C. T. M., Trego County, writes that he has read of the loss of life from poisonous gases collecting in a pit silo built in Sumner County and inquires if this is a possible source of danger applying to all such silos.

The builders of pit silos should be on the lookout for the presence of carbonic acid gas, which is a deadly poison and which is the result of the decomposition of vegetable matter. It is a heavy gas and settles in the bottom of silos built below the ground. It is comparable to

"choke damp" experienced in wells. However, the danger is not such as should operate against the construction of pit silos. There is no reason why people should quit riding on the railroad because there is an occasional loss of life.

The presence of carbonic acid gas can be detected or determined by dropping into the silo a lighted lantern. If the flame is extinguished the gas is present and it would be dangerous to life. If the gas is detected, then it must in some manner be removed, and this is difficult. Probably the most practical method is that of dropping into the silo sacks filled with hay or bundles of fodder and which would have the effect of creating a commotion in the silo and thereby dislodge the heavier gas and give the air a chance to take the place vacated by it. There is no known means of ventilation unless a ventilator be so constructed as to reach to within a short distance of the silage and extend above the top of the silo to a sufficient height to create a draft, on the same principle as the large smokestack.

We recall having read of the incident to which we think our subscriber refers. This was a case in which the silo had been closed for a long time following the feeding season and silage had been left in the bottom and badly decomposed by seepage of water into the silo. The loss of life followed an attempt to remove the rotten mass from the silo. We think that the daily opening of the silo during the feeding season and the removal of surface silage daily will not result in the accumulation of gas, and this leads to the suggestion that at the close of the feeding season and before there is occasion to again go into the silo the above precaution to determine the presence of gas should be exercised. There is no danger from gas in silos constructed above ground. The opening of doors on the level of silage obviates danger.

Refrigeration of Milk and Cream.

Considerable space in a bulletin of the Federal Department of Agriculture is devoted to cooling milk on the farm, and to the advantages of jacketing cans of milk while in transit. In this connection it is pointed out that the temperature of an unjacketed can rose 28½ degrees in three hours, while one that was hair-quilt jacketed rose but 5½ degrees, and one wrapped in wet burlap, 8½ degrees in the same time.

The refrigerator milk can, recently advertised in these columns, overcomes the objections of wet and dry jackets which are not durable, inconvenient to handle and otherwise not satisfactory. The refrigerator can is more efficient, more durable and costs less than jackets.

Stir Milk During Water Cooling.

The milk in the top of the can just above the water level in the cooling vats cools much more slowly than the milk that is below the level, according to experiments just completed by the Dairy Division of the U. S. Department of Agriculture. The warmer milk in the top of the can does not circulate naturally with the cold milk at the bottom. The cold milk being heavier than the warm will remain at the bottom of the can, while the warmer and therefore lighter portion will remain at the top, and practically no circulation will take place. The transfer of heat in this case is very slow; moreover, the milk around the sides of the can cools much more quickly than that in the center of the can. It, therefore, is important to stir the milk while cooling.

In experiments made with cans where the top of the milk was above the water level, it was found that the milk above that level remains from 5 to 6 degrees warmer than the portion below the level. Bacteria consequently will develop at a higher rate in the top of the milk, and when later the milk is mixed, the souring of the whole canful will be hastened both by reducing the temperature of the whole and also by the increased number of bacteria in the warmer portion.

The advantage of stirring is emphasized by the fact that at the time the milk was stirred the temperature of the room was over 6 degrees warmer than was the case when the unstirred milk was put into the running water. The test served to demonstrate the necessity of employing some form of milk cooler suitable for farm use, and more efficient than running well water.

New oats and hay had best be omitted from the work horse's ration until cool weather.

SMALL FARM POSSIBILITIES

Through Use of Silo Thirty-Five Acres Will Produce Much Feed

O. T., Doniphan County, has built an 8x20 silo and desires to know if this is sufficiently large to feed six cows for the period during which there is no pasture and also if by the use of the silo he can keep more than six cows.

A silo of the above dimensions will accommodate at least thirty tons of silage. If the silo could be filled full of settled silage it would hold about thirty-two tons. If the six cows kept by this subscriber are good feeders and reasonably heavy milkers, they will consume not more than forty pounds of silage per day each. Thus about 240 pounds of silage will be fed per day, and at this rate the thirty tons will feed 250 days, allowing, therefore, for practically four months of pasture, or a feeding season of eight months.

For these six cows our subscriber has not built a silo larger than he needs. It could very well have been several feet taller. The diameter is about right for the feeding of this number of animals, since the removal of 240 pounds of silage per day will result in taking 1 1/4 to 1 1/2 inches of silage daily from the entire surface and this is about what is required to keep the silage in perfect condition. If the silo had been four or five feet deeper our subscriber would be able to carry over from each winter feeding season a few tons of silage for use the following summer. If the silo is of concrete or of steel it may yet be built higher. If it is of wood staves, the addition cannot satisfactorily be made. However, in the case of either structure, an excavation could be made into the ground inside of the silo which would increase its capacity to the desired extent.

For this number of cows our subscriber will find it advisable to erect another silo of about the same dimensions. He would then be absolutely independent of the fatal results of poor pastures at any time of the year or even for the whole season and furthermore would be able to carry over practically one entire season's feed and this is a feeling of comfort and satisfaction which every dairyman will appreciate. With another silo the dimensions of the one already built, our subscriber can add two or three cows to his present number and feel fully as secure in the matter of feed as he can now feel with one silo for the six cows.

Our subscriber advises that his is good corn land and that it is safe for him to figure on forty bushels of corn per acre for a ten-year period. Three acres of corn yielding forty bushels to the acre will produce thirty tons of silage, according to the generally accepted method of figuring silage in relation to bushel yield. Our subscriber will note, therefore, that it requires a small acreage of his thirty-five to fill the silo and maintain six cows each year for an eight months period. He will be able, therefore, to figure with the aid of these data, the number of cows for which he can grow silage. The fact is that he can, if he so desires, and by year-around silage feeding, maintain a larger herd than he himself will care to milk.

It is to be remembered, however, that dairy cows require feed other than silage, and on this farm ought to be grown some alfalfa. The acreage of alfalfa so far as feeding is concerned, will, of course, be governed by the number of cows kept, each cow requiring ten to twelve pounds of alfalfa hay per day or that amount to each forty pounds of silage fed.

If our subscriber figures closely he will find that on this farm he can, if he will, easily keep twelve to fifteen head of cows, the necessary work stock, the best of the heifers from the dairy herd to be sold at freshening time as milkers.

The fact is that in Doniphan County, on land which will produce forty bushels of corn to the acre for a ten-year period, a very profitable one-man business can be developed on a 35-acre tract. Doniphan has forty inches of annual precipitation for a 27-year period and this properly handled insures alfalfa and corn. In case more silage should be needed, kafir or cane can be used for filling and the acre yield per ton increased above the corn yield to at least 25 to 30 per cent.

Big Yields in Finney County.

Unirrigated wheat in Finney County is making from 25 to 35 bushels per acre, while irrigated land is yielding from 50 to 60 bushels per acre. There

is a large acreage of sugar beets this year and the crop is an unusually good one with prospects of an average yield of 15 tons per acre. The third cutting of alfalfa is now being cut. The seed crop of alfalfa will probably not be up to normal this year, but the hay crop will be a big one.

Yield of Silage per Acre.

Subscriber D. E. F., McPherson County, writes asking how he can estimate the amount of silage per acre his corn crop will make, stating that in his judgment the yield of sound corn will be about thirty bushels per acre.

We receive at this time of the year many such inquiries and these have this season just now begun to arrive. So

far as we know there is no method by which the yield of forage per acre can be determined. This is because of the varying conditions of the corn crop when ready for siloing. In the case of normal growth it is generally considered that the weight of the grain is one-eighth of the weight of the total plant. That is, corn yielding thirty bushels per acre would yield 2,100 pounds of ear corn per acre. This being one-eighth of the total weight, then the weight of the grain and stalk would be 16,800 pounds, or approximately eight and one-half tons. If this basis of figuring were followed literally, then a crop which produced no grain would produce no silage and the inconsistencies of such method of figuring are at once apparent. It is

our belief, however, that the above rule may be made to apply with a reasonable degree of satisfaction when corn has developed normally to a half crop or better. This rule will not apply in the case of kafir or cane, the percentage of grain being smaller in proportion to the stalk and leaf than in the case of corn making a fair yield.

The yields per acre of silage of kafir and corn at several points in Kansas and Oklahoma for several years are reported in "Sorghums: Sure Money Crops," a book written by the editor and which can now be supplied by KANSAS FARMER. During the years 1900-1903 inclusive, kafir averaged 4,400 of fodder per acre, the weight of the green plant being three times that of the cured roughage. This yield is equal to 13,200 pounds of green roughage, or approximately six and a half tons. During the same years at the same station the average weight of corn fodder per acre was slightly under 2,000 pounds, or three tons of silage per acre. In 1913 at the Manhattan, Kansas, station, the yield of corn silage was four tons per acre; black-hulled kafir five and three-tenths, and cane ten and four-tenths. At the Hays station the same year kafir yielded three and a half tons, and at the Tribune, Kansas, station kafir yielded three tons of dry forage and twelve bushels of grain or nine tons of silage. At the same station the same year, cane yielded eighteen bushels of grain and four and a half tons of silage and corn one and a half tons of silage and two bushels of grain per acre. The yields above reported are for years which the reader will recall as being poor years for corn and in fact poor years for kafir, but this gives some idea as to the relative yields of these plants when growing under the same conditions.



ONE OF THE METHODS OF GIVING HORTICULTURAL INSTRUCTION ON THE FARM.—GEO. O. GREENE, OF THE AGRICULTURAL COLLEGE, TALKING ON GOOSEBERRY GROWING DURING DEMONSTRATION WEEK LAST WEEK IN COWLEY COUNTY, USING YOUNG PLANTATION AS OBJECT LESSON.

Big Buying On Trade Day

By H. T. NIELSEN, District Agricultural Agent

I BELIEVE in the special trading day idea for the country town, but I think the attempt should be made to make the day one for big trading, and not of small buying. Farmers organizations are springing up here and there, and these in a good many cases feel that they are justified in going into the buying of certain classes or lines of goods on which they think the merchants of the towns are taking too large a toll for handling. Naturally the merchants wish to keep this trade. I will not attempt to discuss the merits of these cases, but will dismiss this feature of it by saying that I believe there is both justice and injustice on both sides.

HANDLE AT MINIMUM EXPENSE.

But let us look at the matter reasonably and sensibly and see if there isn't some way in which we can get all the interested parties working together. Why cannot some merchant make a campaign to have a carload of sugar brought in on that day, and have the farmers go to the car and take a sack or two sacks? In this way the farmer will get the benefit of reduced prices by reason of much less handling, and the merchant still get a reasonable profit. It seems that all the grocymen in one town might combine on some such campaign. Of course, there should be the best possible kind of co-operation between the farmers and the merchants in order to do this. Farmers should agree beforehand as to how many sacks of sugar they would take, and to be ready to pay cash for it as soon as they get it, and the merchant should frankly let it be known that he is not doing the work just for the fun of it, but is getting a reasonable profit, and this we must all admit must be the actual facts or conditions on both sides if the right spirit is to be maintained.

Sugar is only one item. Flour is another article which might be handled in the same way. A little later it might be a fine thing for all concerned to bring in a carload or more of fruit, always letting the merchant of the towns transact the business of buying, and all getting the benefit of large quantity buying and the least possible expense in handling. Still later potatoes might be an item to consider.

LOCAL DEALERS CAN WORK UP FEATURES.

Getting away from groceries, August and September are months in which

farmers and others should, if possible, lay in a supply of coal, bran, shorts, oil meal and cottonseed meal, and perhaps tankage. Why couldn't dealers in these products make arrangements with those who desire to buy, that on such a trade day there will be a carload or more on the track, and those who will take the goods from the car and pay cash will save money. The dealer will still be able to make his profit, which it must constantly be borne in mind he is entitled to, but it must be a reasonable profit, and by reason of the much smaller expense in local handling, will effect a considerable saving.

It is hardly necessary to enumerate more articles or lines. It will be for the merchant to develop this field and to think up specials in his line which he can use to good advantage for trade day, and which he and the farmers can work together on and all get some real benefit from.

AUCTION IS GOOD FEATURE OF DAY.

The public auction feature of the trade day movement is a splendid feature, but I think it should quickly be made self-supporting. In my estimation every self-respecting man will be willing to pay the usual percentage charge for having the stuff sold, as long as he is not burdened in the least with any expense of advertising and getting a crowd together. It may be the best for a few times to have it managed as at present intended, but I think this whole movement should quickly be put on a basis of mutual help to everybody, and in order to be this every one should be willing to pay for his own particular benefits and not expect someone else to do it.

LET TOWN AND COUNTRY GET TOGETHER.

Lastly, let town people and country people counsel together and make an earnest effort to eliminate useless handling and expense. But never lose sight of the fact that all are entitled to live, and therefore to have reasonable returns on what they do. Let it also be kept constantly in mind that the town and country are indispensable to each other, and what injures the one is certain to be felt keenly in the other. But let us all get together and make the trade day a big thing. Let us strive to make it a model in "efficiency," in harmonious endeavor between country and town for the great benefit of "all the people all the time."

Building for Kansas Counties.

Work on the Kansas Counties building for the International Dry Farming Exposition at Wichita has begun. The building, which will be in charge of W. C. Edwards, will cover 150 x 160 feet of ground and will be entirely given over to exhibits from the 25 Kansas counties now arranged for. Among these are Allen, Barber, Butler, Cowley, Crawford, Ellis, Finney, Ford, Gray, Greenwood, Harper, Harvey, Kingman, Kiowa, Lyon, Montgomery, Neosho, Pawnee, Pratt, Reno, Rice, Riley, Sedgwick, Shawnee, Sumner. The Kansas Counties building promises to be one of the most notable features of the exposition. It will attract world-wide attention and will undoubtedly excite much favorable comment on the wonderful resources of the Sunflower state.

Plowing to Save Moisture.

All of the considerable number of tests that have been made during the past several years show an advantage of plowing over disking to store water. If the weather continues dry during a test of this kind or if the disking kills the weeds as thoroughly as the plowing, little difference will be found. If the disking, however, does not kill all the weeds, the difference will be greater, depending upon the amount of water used by the weeds. Where heavy rains come during the test, the advantage of plowing over disking will be greater. The plowing puts the soil in better shape than does the disk to catch the heavy rains.

Burr Busy in "Social Service."

A wide variety of social service work is planned for August by Walter Burr, head of the rural service department in the Kansas Agricultural College. The work includes addresses, picnics, chaquetaquas, meetings of co-operative associations and other bodies. The schedule for the first part of the month is as follows: August 8, co-operative association meeting, Columbus; August 12, Sunday School picnic, Palmer; August 13, farmers' picnic, Riley; August 15-16, survey and address, Rutland; August 18, farmers' picnic, Courtland.

Better Egg Prices Than Ever.

T. A. Babcock, of Douglas County, states that no eggs have been marketed from his farm this summer at less than 15 cents a dozen. "I well remember the summer egg trade prices not so many years ago, when we were glad to trade out our eggs at the country store at 5 cents per dozen," said Mr. Babcock. "Our hens lay just as many eggs now as they did then."



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FARM NOTES

Wheat seeding is at this time uppermost in the minds of most Kansas farmers. Last week we discussed the preparation of ground for wheat under the conditions at that time generally prevailing in Kansas. The conditions were such as to make plowing difficult and slow and a comparatively small acreage had been plowed for wheat. The situation has not materially changed, although the state has since been visited by local rains and in many sections plowing has been made possible and is in rapid progress. In many localities the rains were sufficient to make the disking of stubble as recommended by us last week much more easy and more effective. Numerous reports indicate that the preparation of wheat ground by disking will be practiced for a considerable acreage even in the eastern third of Kansas, and several readers have written that our article on disking gave them a gratifying assurance regarding that method. It is to be understood that we thoroughly believe in the disk when proper use is made of it. It is not to be considered, however, that disking can take the place of plowing, and disking is here recommended only as a matter of expediency when plowing is not possible, either because of the condition of the ground or because of other adverse natural conditions. Disking year after year has seriously damaged thousands of acres of land in the western one-third of Kansas. A thorough plowing inserted at least once in three years between diskings would have prevented much of the damage done by blowing and would also have saved many crops. Plowing is necessary to break up heavy soils at greater depths than will the disk. Plowing is necessary also to work into the soil vegetable matter in the form of weeds, stubble, etc., which cannot be done by disking. On the other hand, in the western section of the state stubble when permitted to remain on the surface protects the land and the wheat plants from blowing. So there are natural conditions other than those pertaining to the condition of the ground which argue both for and against disking. These same conditions make necessary different preparation of ground for wheat in the several sections of the state and it is cognizance of these conditions which insures the best crops.

There is a growing feeling among farmers in the western half of the state that plowing for wheat should be done before August 15 and if plowing cannot be done prior to that date, disking then affords the best method of preparation. This practice has gained a substantial hold in many western localities, and it is giving such results as warrant the above conclusion. There are, of course, occasional years when the fall rains are sufficient to permit later plowing which can be seeded to wheat with satisfactory results, but these are the exceptional years. In the eastern half of Kansas plowing may be done later than August 15. In this section there is greater chance that sufficient rain will fall before wheat seeding time to make a firm seed bed. Wheat in this section may be seeded later than farther west, giving longer time for the working of the plowed land into a satisfactory seed bed. However, it is the heavier rainfall in the eastern half during September and October as compared with the rainfall of the western half during these months, which will permit later plowing. Earlier seeding in the western third is regarded as advisable and farmers generally there have come to the conclusion that wheat should be sown as early as September 1 and concluded during the month. Of course each year much wheat is sown in the western third several weeks and often a month or more later than this and an occasional good crop has followed such seeding, and the crop just harvested was one. In the western third of Kansas there is little damage from Hessian fly. In fact the fly scarcely deserves consideration in that section. In the eastern and central thirds of the state the fly has in the past inflicted much damage upon the wheat grower and he is in constant danger of damage from this insect. Consequently as a result of seven years of experimental sowings and observations thereupon by the Kansas Agricultural College, so-called fly-free dates have been established and which range from September 29 in the northwest corner of the middle third of Kansas, to October 14 in the southwest corner of the eastern third. Observance of these dates which during several years past have been recognized as advantageous to the wheat grower, warrants later seeding of wheat in the



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western two-thirds of the state than was formerly practiced. It is not to be forgotten, however, that early preparation throughout the eastern two-thirds of Kansas is beneficial and generally gives greater assurance of a crop than later preparation. The map in these columns shows fly-free dates for seeding for the several sections indicated. It will be noted that sowings can be made with reasonable assurance of escaping Hessian fly damage twelve days earlier on the north line of the state than on the south line and these give the wheat grower dates on which the seed bed should be ready. However, it should be kept in mind that early preparation is advisable not only from the standpoint of getting the seed bed into condition, but also in the control of the Hessian fly.

The above points warrant consideration in answering several KANSAS FARMER subscribers who have asked if shallow plowing at this date would be more desirable than disking. For the western two-thirds of Kansas we consider disking at this date as the best method of preparation. In our judgment it will give a better seed bed than will be possible through plowing unless the rains should be abundant. For the eastern third, four or five-inch plowing followed by such labor as is necessary to firm the soil, will probably give the better crop outlook. The disk set straight will give the best results in putting this ground in condition, provided the ground plowed up cloddy. If it turned up mellow, then the sub-surface packer will give better results. We cannot help but feel that in advance of wheat seeding time there will be sufficient rain to pack such plowing—we, like all Kansans, have hope at all times for the rains necessary to save the day. Plowing at this season should be immediately followed by the packer or the straight set disk at least once over. Even in the eastern third of Kansas should it continue dry it is our feeling that thorough disking would produce a more satisfactory seed bed than late shallow plowing, but we believe that the chance for the needed rain is such as to warrant a chance on plowing and a better crop prospect. Should the season be wet, a disked seed bed would likely produce as good a crop as a plowed seed bed, but this would pertain only to a fall of more than normal rainfall, an amount of precipitation which cannot be depended upon. It occurs to us, therefore, that shallow plowing, where it can be easily done and the stubble and weeds well buried, followed by the work necessary to pack the seed bed, will in Eastern Kansas give the best results, but in the western two-thirds of Kansas disking is at this date to be recommended.

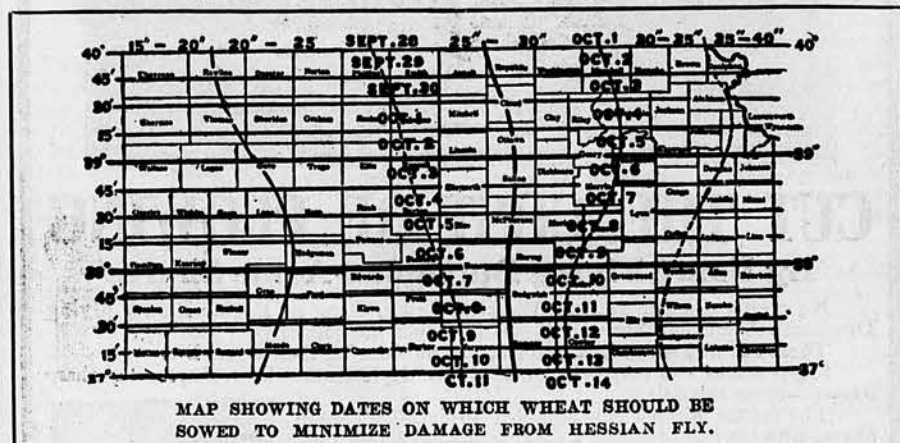
Farmers of Nebraska have been asked to buy Kharkov wheat at \$3 a bushel from a traveling solicitor, which has caused the Nebraska Agricultural Experiment Station to advise that the seed of this wheat can be bought for much less money. The salesman's "spiel" is to the effect that on the Nebraska station farm Kharkov has given much greater yields during the past four or five years than Turkey Red or other similar varieties with which it has been compared. The station records show that during the trial period there has been a difference in yield of about one bushel between the two varieties above named and this difference is considered so small that it can be regarded as within the limit of experimental error. These facts are here set down for no reason other than that this same traveling solicitor or one of his kind may cross the line into Kansas and may seek to sell his \$3 wheat in this state. In Central and Western Kansas these two varieties of wheat are now being grown and one is giving about as good results as the other. Each is regarded as a variety well adapted to the conditions existing in these sections of Kansas. There is little difference in yield resulting from the use of pure seed of Turkey Red and Kharkov. Each is a hard red wheat and there are many fields, practically pure, grown in nearly every neighborhood in the western two-thirds of Kansas and the seed from which can be obtained at near market prices. If you are seeking better seed than that which you have sown during the past few years, a letter to the Agronomy Department of the Kansas Agricultural College will give you the names of owners whose fields have been inspected for their purity and from which owners you can obtain seed at less than \$3 per bushel.

Several inquiries have been received within the past week as to the advisability of sowing alfalfa this fall. This subject has been so thoroughly discussed in recent issues of KANSAS

FARMER that it seems inadvisable to answer these inquiries here. Such inquiries have been mailed those issues of KANSAS FARMER containing the information they desire. It is not amiss to say, however, that the present conditions are not such as would encourage alfalfa seeding this year. The conditions of soil, however, are similar to those existing last year at this time and even though the ground is not so dry as last year, it is, nevertheless, as difficult to prepare a satisfactory seed bed for alfalfa now as it was a year ago. Fields which were plowed early for seeding this fall are not in condition and will not be until sufficient rain falls to cause thorough settling. On farms where no plowing preparatory to alfalfa seeding has been done, a seed bed can still be prepared by plowing provided the necessary rain is had. So, while conditions at present are not favorable for the seeding of alfalfa, it is possible that later conditions may be as favorable as last season when late prepared seed beds and late seeding gave good stands and satisfactory growth before winter set in. From the above it is apparent that the time of seeding is not so important as are conditions which will permit of proper seed bed preparation. These conditions may exist yet this fall. Ordinarily it is considered that fall seeded alfalfa should be sown in August, but August seeding can be successful only if the ground is in condition. Last fall many hundred thousand acres of alfalfa were seeded after the middle of September with satisfactory results. Much of this acreage was seeded on land which had been plowed and put into condition following the late rains. However, a larger acreage was seeded on land which

had been put into spring crops and which had been kept clean by cultivation during the summer and prior to seeding had been given only surface cultivation. The rains put this land into perfect condition for alfalfa and the stands obtained afford evidence supporting the advantages—in fact, the absolute need of a firm seed bed supplied with the moisture necessary to give the alfalfa plant a good start. These are the conditions to be taken into consider-

interesting to know that the 1914 seeding of alfalfa amounted to 153,000 acres, which gives Kansas a total acreage at this date of about 1,180,000. Some newspaper man who credits his information to the Kansas State Board of Agriculture, figures that the value of this year's alfalfa crop will be \$37,400,000, figuring a ton of alfalfa hay as having a value of \$11. In other words, an acreage of alfalfa equal to one-seventh of the acreage of wheat harvested





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DAIRY

A Californian writes KANSAS FARMER that one breeder of dairy cattle in that state has fifty cows the average annual butter production of which is 717 pounds. We are not informed as to the size of the herd and do not know whether or not these are the best cows of a herd of 2,000 or of a herd of 200. It would be interesting to know. We are informed, however, that these cows are the result of the breeder's own care and activity in selecting and breeding for larger butter yield. This means that these cows have been developed by him and that they have not been bought at long prices here and there throughout the United States. These fifty cows and the methods employed in producing them seem to this editor to offer a reproach to the owners of each of the twenty million cows of the United States the annual production of which is less than one-fifth that of those of the above herd.

It has several times been stated in these columns that the milking machine has reached the point of perfection at which it has become as practical in farm use as the cream separator. The mechanical milker must of course win its way, just as has the cream separator. It is our opinion that within the next fifteen to twenty years the milking machine will have become as common in its use as is the hand separator of this day. We have just read that the Sharples factory is building eighty complete machines per day, and there are other factories building milkers. The annual output of this factory will therefore supply machines in considerable numbers. The machines made must be sold, else the factory would not be in operation. The fact that mechanical milkers are manufactured year after year is in itself assurance of the practical success of the machine and gives a good idea as to its future usefulness.

A creamery of much interest is that maintained by the De Laval Separator Company at its Poughkeepsie, New York, works. This creamery is unique not only through the fact that it is a model of sanitation and completely equipped with the most up-to-date creamery machinery, but also through the fact that it is probably the only creamery in the United States where practically all the milk is separated by hand separators. The creamery is in fact the testing room of the company and in which its separators are tested out in actual use. It is in this creamery that every improvement or alteration in the machines made by the firm is thoroughly tested before being permanently installed in or on the lines offered to the public. The amount of milk received daily is greater than that taken in by many commercial creameries. The cream is sold sweet to various New York hotels and the skim milk is utilized in the manufacture of cottage cheese for which a ready market is found.

State Dairy Commissioner Hine will hold examinations for persons desiring permits under the law of the state for sampling and testing milk and cream, at Winfield and Garden City on August 25; Independence, August 26; Columbus, August 28. The commissioner will hold examinations in his office at Manhattan on the first Tuesday in each month. The commissioner gives notice that all persons holding temporary permits or final permits about to expire, who fail to take the examination when it is held in the locality in which they reside, must cease buying cream on and after the expiration of their permits, and all such will be required to take the examination at Manhattan if they desire to continue buying cream. The commissioner has been holding examinations at various points throughout the state since June 30. KANSAS FARMER folks who sell cream to cream receiving agents should know that they sell to persons who are buyers licensed by the state. Such license is an assurance of ability to accurately sample and test cream.

Only last week a dairy farmer from Wyoming was in this office making inquiry for a carload of pure-bred Holstein heifers and cows. He had been East and had ascertained the prices at which such animals could be had in Ohio and New York, and while he did not object, he said, to the prices he would there have had to pay, he did think it good policy to buy farther west and receive the benefit of a lower freight rate to his point. On the way west he stopped in Missouri and could find nothing for sale. He was told there that he ought

LOUDEN



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The Superior Flexibility of the Loudon Stanchion permits the cow to lie down or rise without the dangerous straining common to the more rigid type. The Loudon Stanchion (all steel or wood-lined) is an absolutely safe and comfortable stanchion.

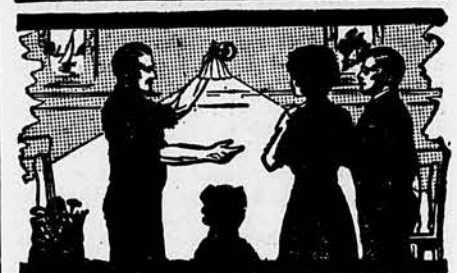
Louden Stalls and Stanchions are built of the finest, high-carbon tubular steel and are exceptionally strong, easily installed and cost no more than wood.

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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.

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to be able to find what he wanted in Kansas because this state had been buying many Holsteins for years and that we ought to have a supply. Of course he could not find on any one farm or in any one community in the state the number and quality of animals he desired. Consequently he is making tracks east somewhere and will find what he wants and some of these fine days one of the railroads of Kansas will transport a carload of pure-bred cows and heifers the entire length of the state and these cows will look out of the car onto an abundance of the best feed that grows, well equipped farms situated in one of the best climates for dairying but the natural advantages of which are not capitalized by growing dairy stock for sale. Kansas is not growing the dairy stock she needs for herself and is each year paying thousands upon thousands of dollars to breeders in Wisconsin, Ohio, Michigan, Illinois and New York for dairy cattle which might as well have been produced at home or at least near home. Furthermore, Kansas farmers might as well be jingling in their pockets the golden shekels which the farmers of Wyoming, Idaho, Utah, Colorado and New Mexico are exchanging for the cattle they buy. A few years ago California, Oregon and Washington were buying cattle in the east but now have almost wholly discontinued. This, because within a comparatively few years dairymen of those states have begun supplying the demand of their states for these animals and so the money of the dairymen of the coast is kept at home. Kansas needs not only the dairy cow to milk, but also to sell. There is as much demand for the cow herself as for her milk.

A good many new dairy barns will be built in Kansas this year. On every farm where a few cows are kept and on which a good wheat crop has been grown, some money ought to be expended in improving the conditions under which the cows are kept. A comfortable barn will contribute much to the profit of the dairy through more economical feeding and through protection of the cows from the elements, and will also contribute an almost unbelievable amount to convenience and satisfaction of the milkers. On many farms the barn or stabling in so far as the building itself is concerned, is now satisfactory from the standpoint of protection from the storms and cold of winter, but the stall arrangement is such that it is not convenient or clean and as a result those who have the milking to do are more or less disgusted. The stall arrangement is important when considered from the standpoint of keeping cows clean and in making milking pleasant for those who have it to do. If the stall arrangement in barns were such as to promote a feeling of satisfaction on the part of the milkers at milking time, dairying would be looked upon in a greatly different manner as compared with the present, on many farms. The conveniences or rather lack of conveniences under which many women and children milk cows are really shameful and it is no wonder that the milkers become disgusted. Many barns need remodeling only to the extent of the interior arrangement, and when such remodeling is done dairying will be looked upon as a pleasant chore rather than as the most unpleasant to be done about the farm. The best stall arrangement is that which provides for a platform of suitable length and upon which the cows can stand. A concrete platform is probably the best, but such material is not necessary. It may be of clay or of plank. Behind this platform should be a drain of ample size and back of this a convenient alley-way. The stalls can best be of steel and of some of the several patented makes supplied by dairy barn equipment companies. The advertisement of the Loudon Machinery Company of Fairfield, Iowa, is now running in KANSAS FARMER. This concern will furnish a plan for your barn and an estimate as to the cost and it will require only the writing of a post card by you to get the suggestions they have to offer. The suggestions as to arrangement will be worth the cost whether you buy stalls and stanchions from them or not, but the addition of such equipment to your cow barn will place a different aspect upon dairying and it might be worth a great deal to you to know that those upon whom you depend for the milking are pleased with the conveniences provided. It is our guess that 70 per cent of the milking done on Kansas farms is by the women and children. It is a shame that many of them have to milk under the conditions forced upon them. If they liked milking better you might be able to get more cows milked and thus the prosperity of the farm increased.

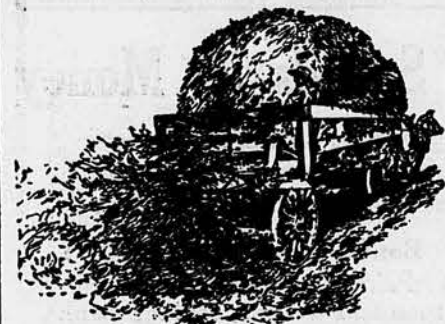
\$500 FOR YOUR OLD STRAW STACKS!

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Two years ago William Knop, of Preston, Kansas, didn't realize that his old straw stacks could be made to yield an extra cash profit of \$500.00 a year but he knows it now, because he spread those stacks on his wheat land a year ago, and banked an extra \$500.00 as the net result. He estimates his benefits at twice that.

Curtis M. Brown, of Attica, Kansas, did even better by straw mulching his new alfalfa seeding as well as his wheat.



Hundreds of other progressive farmers in various parts of the country have been saving their stacks for years, and are now converting old straw into gold with the use of a straw spreader—simply by turning it back onto the soil and allowing it to do its work as the one great natural fertilizer.

When used in this way the straw stack saves money and makes money in more ways than one. It eliminates the usual large investment made every year for commercial fertilizer. It returns to the soil those priceless plant elements taken from it in the production of "bumper" grain crops. It builds up the humus supply, conserves moisture, acts as a wind shield in preventing soil blowing—and adds as much as five bushels and ever more per acre to the wheat yield and increases other crops in proportion.

You will say that all this is an old story to you—that everyone realizes the value of straw as a fertilizer and soil-saver, but that everyone also knows what a strenuous task is before him when he

undertakes to spread his fields with straw by the old-time pitchfork and hand method.

Yes, that is a strong argument against the use of straw as a fertilizer—and many stacks would continue to "go up in smoke" and take good dollars along with them if that were the only method to be used.

But it isn't the only method—in fact the "pitchfork and hand" method is not the method used by Knop and Brown and the others mentioned above.

A new labor-saver, soil-builder and money-maker for the farmer has lately been perfected to perform this very service. It is known as the "Simplex" Straw Spreader, and it is being manufactured and distributed among thousands of American farmers by the well-known firm of modern machinery experts, the Manson-Campbell Co., 371 West Tenth St., Kansas City, Mo.

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You can easily spread 20 acres or more a day—and the labor it performs, the time it saves and the soil it builds, will pay for it in 10 hours' time. It is possible to pay for itself in a single day.

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A very interesting and very instructive book on straw fertilizer and the "Simplex" Spreader has just been issued by Mr. Campbell. The book contains pictures of scores of the best known and most successful farmers, agricultural experts and farm journal editors and their experience with the use of straw as a soil-builder and profit-maker. The book and full information about the special 30-day free trial no-money-down offer to our readers will be sent free and postpaid to all who will write the Manson Campbell Company, 371 West Tenth St., Kansas City, Mo. We advise our readers to write for the book and investigate this very liberal offer.—(Adv.)

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70,000 stockholders, about half of whom are women, receive \$30,000,000.

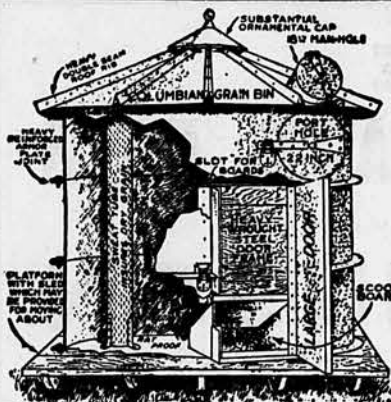
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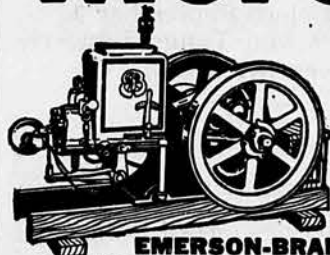
It would be the height of folly to sell your wheat now when every indication is that by holding it a short time you will be able to get two or three times its present price. The Big European War is bound to put up the price of wheat higher probably than it ever has been. You can store your wheat easily and cheaply in a Columbian Metal Granary and sell when prices are highest. For 30 days we will supply you with a

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and pay the freight to your station if you live in Mo., Kans., Ia., Okla. or Nebr. If you live elsewhere write for special delivered price. You need send no money with order. Just give us the name of your bank and we will send them the bill of lading with draft attached. Pay for the bin when you get it.

The Columbian Metal Granary is rain proof—wind proof. It is safe and sanitary and will keep your grain in perfect condition. You can erect it yourself—easily portable and altogether the most economical granary you can own. Send in your order today by wire, long distance or letter, or see your dealer. He can supply you at the above prices. Our enormous facilities enable us to make a bin every four minutes. This makes such a low price possible, and enables us to fill your order the day it is received. But don't delay.
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Write today for big free catalog of harness and saddles direct from maker at wholesale prices. We prepay freight charges. **H. & M. HARNESS SHOP, Dept. 140 St. Joseph, Mo.**



LIVE STOCK

My experience with feterita this year has been very successful. The crop was planted about May 5. The ground was not plowed but disked deep four times, harrowed twice, then planted with furrow openers. The crop has made a good growth and I think will yield between 60 and 70 bushels. I have been feeding it to hogs for about ten days and about August 12 will turn them in the field.—**C. A. WOODWORTH, Shawnee County.**

Out in the great wheat belt districts of Kansas, and where a few years ago no dairy cattle were to be found, farm dairying is increasing. "We find a herd of good milk cows a paying side line to farming now," said F. S. Davis of Barton County. "At all towns now receiving stations can be found where cream is bought from farmers for cash every day in the week."

Shorthorn Herd Book.

Volume 82 of the Shorthorn Herd Book is now being distributed. It contains the records of bulls numbered from 376001 to 385000 and cows numbered from 138001 to 149000.

The Shorthorn Breeders' Association has just recently started a milking appendix to the herd book, where are recorded performance records in milk production of Shorthorn cows. The present volume has two such records.

In order to get into this star record, as it is called, the Shorthorn heifer under thirty months of age must produce 6,000 pounds of milk in twelve months; cows completing their records under five years of age must produce 7,000 pounds of milk in the twelve-months period and cows over five years of age must have an annual milk production of 8,000 pounds of milk.

This is a new departure and should stimulate increased interest in the milk-producing capacity of Shorthorn cows.

Sow Rye for Pasture.

The cost of growing hogs and producing pork is largely a matter of feed cost. This is true of practically all domestic animals. The cheapest feed on the farm is green forage and the more largely we can make the hog gather his own feed the more we have economized in his growth. In most sections of Kansas alfalfa is the great summer and fall forage for hogs, but much use could be profitably made of rye as a winter pasture.

Rye should be sown for this purpose on a well prepared seed bed the latter part of August or the fore part of September. Under favorable moisture conditions it will produce an abundance of green pasture upon into the winter, long after the other pastures are gone. As soon as spring opens up, it is the first green plant to start and will produce abundant forage at a time when nothing else is available. An abundance of green forage during these seasons of the year means the cheapening of the cost of production, since less grain is required to keep the animals growing properly. It has been estimated by some that a value of \$30 per acre has been realized from rye pasture sown on good rich ground. Rich ground is not an essential for rye pasture, however, as it will thrive in very poor ground. In fact the growing and pasturing of rye is often practiced by successful farmers as a means of building up a poor thin piece of land.

Rye can be allowed to mature grain and be harvested by hogs most economically. If the land is desired for other purposes it can be turned over in the spring as a green manure crop and thus add to the fertility of the soil.

Rye is equally useful as a pasture for other farm animals. In sections where wheat is grown extensively it is always pastured to some extent, and when the season is favorable for a strong fall growth, on live stock farms, this pasture value is often sufficient to make the crop profitable even though no grain is harvested. In sections where wheat is not grown, rye is a better pasture crop, since it is more hardy and makes ranker growth earlier in the season.

In order to utilize pasture crops of this kind to the best advantage, live stock farms should be well fenced. With proper fences, hogs can be turned into wheat or oats stubble fields and save large amounts of feed value which would otherwise go to waste. Visits to the farms of our most successful hog farmers will show that these men have their farms so arranged that the hogs can, when desired, be turned into practically any field of the farm. Good fence equipment makes it possible to have hogs all over the farm without their becoming a nuisance, as is the case where good fences are not in use.



HERE'S the low down spreader with the big drive wheels. The beater and all driving parts are on the rear axle. That means no clutches to give trouble, no chains to break or to get out of line; it means less than half the parts heretofore used on the simplest spreader.

Only hip high to the top. Easy to load. You see where to place each forkful. The result is an even load that spreads uniformly.

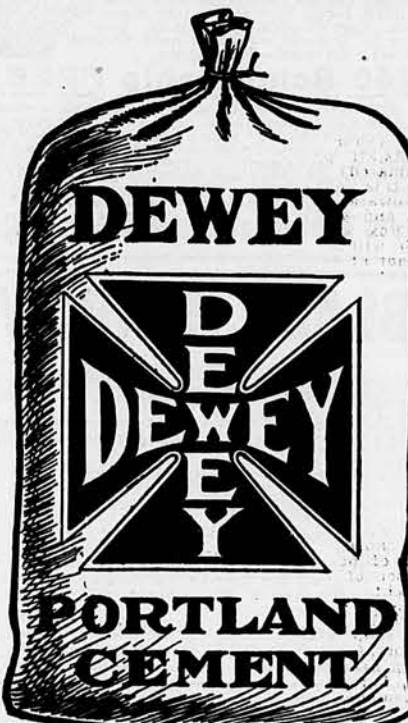
Light draft because the beater runs on roller bearings and the center of the load is comparatively near the team. Staunch, strong and easy to operate.

See the John Deere, the Spreader with the Beater on the Axle. Sold by John Deere dealers everywhere. Send for beautiful booklet, also for

"Farm Manures and Fertilizers" FREE

A Book by Dr. W. E. Taylor, soil expert. It tells the value of manure, how it should be stored, and how applied to the land to get the most out of it. You can get both books free when you write about John Deere Spreaders by asking for package No. Y 13

JOHN DEERE, MOLINE, ILLINOIS



Sold by Leading Dealers Everywhere.

FIELD NOTES

W. W. Otey & Son's Duroc Sale.
On Wednesday, August 26, W. W. Otey & Son will offer, at Winfield, Kan., sixty head of royally-bred Duroc sows and gilts. This promises to be one of the best lots to be sold this summer at public sale. Breeders who want high-class sows or gilts should arrange to attend this sale. The herd boar, Good Enuff Again King, was the grand champion of Kansas last year and is considered by good judges to be a great specimen of the breed. A large number of the sows will be bred to this great sire. Please send for a catalog and arrange to attend this sale. Remember, the date is August 26, at Winfield, Kan.

Ellipse Farm Hampshires.
One of the careful breeders of this breed of hogs is A. M. Bear, Medora, Kan. Mr. Bear never sends one out unless it is a good one. He is an earnest worker for the State Hampshire Association and has been secretary for a number of years. He has called a meeting for all the members during the State Fair at Hutchinson, September 14 to 19. He would be glad to have all members write him what day would be the most convenient for them, then the call will be made. Don't fail to write Mr. Bear about his hogs and also the meeting date for the Kansas State Hampshire Association. Address A. M. Bear, Medora, Kan.



...The...

Big Kansas Fair

ANNUAL EXHIBITION OF KANSAS
STATE FAIR ASSOCIATION

TOPEKA

SEPT. 14 to 18

Mammoth Live Stock and Agricultural Exhibits in New Fire-Proof Brick and Concrete Buildings. Stock Judging and Parades in Live Stock Arena Daily.

Five Days Racing. Kansas Derby. Free Vaudeville and Circus Acts. Conway's Concert Band and Grand Opera Singers and Special Features Daily.

Horse Show Nightly in Brilliantly Lighted Pavilion. Harness and High School Horses. Expensively Appointed Turnouts from Finest Private Stables that Compete in Eastern Horse Shows.

24 PERMANENT BUILDINGS.

Special Service on all Railroads

T. A. BORMAN, President.
G. E. CLARK, Secretary.

\$45,000 in Premiums, Purses and Prizes.



FIELD NOTES

Register of Merit Jerseys.

W. N. Banks, Independence, Kan., writes: "In order to reduce our herd, we are offering a few head of young cows and heifers that will milk from 40 to 60 pounds per day and that are richly bred sons and daughters of Financial Countess Lad out of cows milking as much as 60 pounds per day. We are breeding these cows and heifers to a son of Gamboge Knight, out of a 700-pound daughter of Interested Prince and to the great son of Goldmont's Lad. Goldmont's Lad is a son of Golden Fern's Lad out of a daughter of Eminent 2nd. The dam of this great young bull is Magnates Interest, record 14,815 pounds of milk and 833 pounds (estimated) butter at twelve years old. We own this young bull jointly with J. E. Jones of Nowata, Okla. We have excellent grandsons and granddaughters of Champion Flying Fox and of Gamboge Knight. These cattle will be sold at very reasonable figures but not at farmers' prices. We will not sell a great many and expect to close them out shortly. Everything is guaranteed free from disease and is tuberculin tested." The Banks herd is the largest and best herd in our state. Anyone wanting good cows with choice breeding can make no mistake in visiting the Banks farm and making a selection of herd cows or heifers.

While the subject of egg production is now being prominently discussed all over the country, it would not be amiss to heed the warnings of Dr. Gilbert Hess on the louse question. "It stands to reason," says Dr. Hess, "that hens cannot possibly do their best when they are pestered by lice. These parasites rob the hen of her vitality, and this, with the continual annoyance which they cause, is one of the chief reasons why a lot of poultry raisers are not getting the number of eggs they should. The doctor is right. We must pay enough attention to the birds and their surroundings. Hens should be examined occasionally and dusted with some good reliable louse powder. We should also sprinkle the roosts, cracks and laying nests thoroughly. We might mention right here that Doctor Hess himself is the compounder of one of the most reliable louse powders in the country—Dr. Hess' Instant Louse Killer. This preparation is guaranteed by Doctor Hess to kill lice on poultry and farm stock, bugs on cucumber, squash and melon vines, cabbage worms, and slugs on rose bushes. It is sold in sifting-top cans. We advise readers to give the louse question serious attention and inquire from local dealers about Dr. Hess' Instant Louse Killer.

Graff's Sale of Mulefoot Hogs.

Attention is called to the advertisement of Ernest E. Graff, Rosendale, Mo. Mr. Graff owns one of the largest and best herds of Mulefoot hogs in the West and has announced Thursday, October 1, 1914, as the date of his first annual sale of Mulefoot hogs. On that date he will offer sixty head of choice March and April boars and gilts, ten head of big easy-feeding two-year-old tried sows, and seven head of big high-quality yearling boars. The tried sows in this offering will be bred to farrow in December and January. Practically the entire offering was sired by the famous herd boar, Dodger Chief, one of the best sires of the breed now in service, and out of champion sows. The blood lines of the greatest Mulefoot herds in the East will be found in this offering. The foundation stock was from the famous Dunlap and Scanlen herds, and for the first time western breeders will have a chance to buy breeding stock from a western herd at public auction, and they will find this offering as good as there is produced. Send at once for catalog. Please mention Kansas Farmer when writing.

POULTRY

The egg yield often diminishes during a dry period, because the bugs and insects that the hens have been in the habit of eating are no longer in evidence. Feed the hens some animal matter, and the egg yield will increase.

The time of the fall fairs will soon be on hand. Some will be held the latter part of August. It is time you were thinking of getting your birds ready for these exhibitions. It will pay any breeder to take his birds for comparison with other breeders' fowls, as well as for the advertisement of his own stock.

While ducks can be successfully kept on land that has no water except for drinking purposes, yet it has been proved that those having the advantage of bathing water keep in a more healthful condition, and there is greater fertility in their eggs. Bathing is the only real exercise a duck can take, for unlike a hen, a duck cannot scratch. A less number of drakes are necessary where bathing water is supplied. The age and productiveness in a duck is about double that of the hen. Ducks have been profitably bred up until seven years of age.

Whatever you do about the poultry plant and with the birds themselves, see that it is done properly. Never give a thing "a lick and a promise." You will soon find yourself with many of the "licks" and a whole lot of unfulfilled "promises" if you do. As you go about the work of the day, do it in a thorough manner. It takes but a little more time to do it right than to do it half way with the expectation of doing it better some other time. This doing a thing half way is dangerous, for many times it is done with things that mean a loss to you in many ways.

The premium list of the Kansas State Fair Association is now ready for distribution. The date of this fair is September 14 to 18 at Topeka, and promises to be one of the largest and best fairs in the West. The entries of horses, cattle and hogs are already very large and are being added to every day. The prizes in all departments are very liberal, and especially so in the poultry department. Anybody having fancy fowls should send some of them to the state fair. Thomas Owen, Topeka, has charge of the poultry department and anyone wishing special information in regard to that department can get same by writing to Mr. Owen.

Candling of Eggs on Farm.

To enable farmers and housewives to test eggs before a candle and tell accurately their condition before they are opened, the Federal Department of Agriculture has just published a colored egg candling chart which, so long as the supply lasts, is mailed free upon application. The chart shows the eggs in their natural size as they appear before a candle and also as they look when opened in a glass or saucer. The pictures include an absolutely fresh egg, slightly stale eggs, decidedly stale eggs, eggs with yolks adhering to the shell, eggs where the chicken has developed so far that blood has been formed, and moldy eggs, together with several other forms of eggs which are not fit for food.

The great spoilage of eggs in this country is due to bad handling and is quite unnecessary. Part of the remedy is to teach everybody, from the farmer to the consumer, how to tell the quality of an egg without breaking the shell. The country buyers, the middlemen and the housewife judge of the quality of the inside of a cucumber or an eggplant, or any other vegetable, by the appearance of the outside and the firmness of its texture. It is not possible to tell the quality of an egg by looking at the shell, although it is safe to say that the eggs with shiny shells are apt to be aged. A fresh egg looks as though it had been dusted with a very fine powder; the "bloom," as the egg men say. But in order to know what is inside the shell the egg must be held in front of a strong light. The room must be dark. When the egg is held close against the hole the bright light renders its contents visible, and the quality is indicated by the appearance of the yolk, the white and the air space at the blunt end. There are many egg "candles" on the market, but the housewife can easily make one for herself by cutting a hole in a small pasteboard box, which is slipped over an electric light bulb. If gas or an oil lamp is the source of light, a tin box or can should be used.

Take No Chances With Your Expensive Alfalfa and Clover Seed

Don't lose the cost of your seed and labor—get a catch and a profitable yield. Inoculate your soil with the bacteria, or germ, that helps the plant absorb free nitrogen from the air.

Packed in
one and
five acre
cans.

The Improved German Soil Inoculant, Nitro-Bacter Process

NITRAGIN

PURE CULTURE
THE SIMPLEST SAFEST AND SUREST SYSTEM
OF SOIL INOCULATION FOR ALL LEGUMES.

Absolutely
Guaranteed
to retain
strength and
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months from
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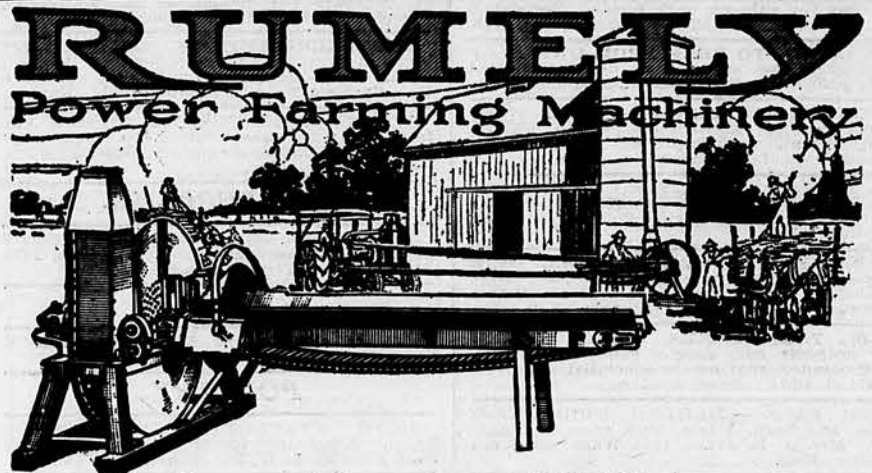
The use of "NITRAGIN," pure culture, insures a good stand—promotes a healthy, vigorous growth—increases the yield, and adds to its feeding value. The use of pure culture for inoculating legumes is endorsed by the United States Department of Agriculture Experiment Stations, and Agricultural Authorities. Prepared in the Laboratories of the German-American "NITRAGIN" Company. Distributed by

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Write for Booklet and Full Particulars.



Green Pastures All Year

To the man with an Advance Silage Cutter winter and summer are alike, for he has green, succulent feed all year. Silage means more and cheaper beef, milk and mutton. Bigger profits are yours with an

Advance Silage Cutter

It cuts your silage in any one of 12 different lengths with the least amount of power and effort. It has a positive acting safety device and has straight knives, easy to adjust and easy to sharpen. The heavy disc easily carries the knives through the toughest cuttings.

Get Silage Cutter catalog EB 41. It gives interesting information.

The Advance Husker-Shredder and Adams Husker are leaders in their line. We also have the right power for all such machines. Every Rumely machine is backed by Rumely service—49 branches and 11,000 dealers. Supplies and parts on short notice.

RUMELY LINES

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Wichita, Kan.

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GRAFF'S FIRST ANNUAL MULEFOOT HOG SALE

At Rosendale, Mo., Thursday, October 1, 1914.

Sixty Head of March and April Boars and Gilts. Seven Yearling Boars.

Ten Head of Tried Sows bred to farrow in December and January.

This offering is sired by the famous herd boar, Dodger Chief, and out of champion dams. Dodger Chief will sell on day of sale. Send name for catalog at once.

ERNEST E. GRAFF

ROSENDALE, MISSOURI

MENTION KANSAS FARMER WHEN YOU WRITE.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items or stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 300,000 readers for 4 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

HELP WANTED.

GOVERNMENT FARMERS WANTED.—Age 21 to 50. Good salary. Write Ozment, 44-F, St. Louis.

AGENTS WANTED TO SELL STAND-ard acetylene lighting plants. The successful farm home light. Write Acetylene Factory, Wichita, Kan.

RAILWAY MAIL, CLERK-CARRIERS, and rural carriers wanted. I conducted examinations—can help you. Trial examination free. Ozment, 44-F, St. Louis.

LADY AGENTS WANTED EVERY-where; excellent opportunity on well paying proposition; write at once; good money for your spare time. The Chaswalk Co., 201 West 6th St., Topeka, Kan.

WILL PAY RELIABLE MAN OR woman \$12.50 to distribute 100 free packages Perfumed Borax Soap Powder among friends; no money required. Ward Company, 214 Institute Place, Chicago.

AGENTS—SOMETHING NEW—FASTEST sellers and quickest repeaters on earth. Permanent, profitable business. Good for \$50 to \$75 a week. Address American Products Co., 6771 Sycamore St., Cincinnati, Ohio.

THOUSANDS OF GOVERNMENT LIFE jobs now open to men and women. \$65 to \$150 month. No layoffs. Summer vacations with full pay. Common education sufficient. Full directions how to get position—free. Write immediately, Franklin Institute, Dept. K-82, Rochester, N. Y.

YOUNG MAN, WOULD YOU ACCEPT and wear a fine tailor made suit just for showing it to your friends? Or a Slip-on Raincoat free? Could you use \$5 a day for a little spare time? Perhaps we can offer you a steady job? Write at once and get beautiful samples, styles and this wonderful offer. Banner Tailoring Co., Dept. 873, Chicago.

REAL ESTATE.

RANCH, 1,120 ACRES IMPROVED. DEAL with owner. Will Woodruff, Kinsley, Kan.

OZARK FARMS AND PASTURE LAND at lowest prices and liberal terms. Write for list. Avery & Stephens, Mansfield, Mo.

RANCHES—I HAVE TWO GOOD ranches for sale on easy terms. For information apply to J. R. Phelan, Alliance, Neb.

WANTED—TO HEAR FROM OWNER of good farm for sale. Send description and cash price. D. F. Bush, Minneapolis, Minn.

POOR MAN'S CHANCE.—DEAL WITH owner for 160 acres creek valley, alfalfa, corn, wheat, well improved farm. E. H. Burns, Argonia, Sumner Co., Kan.

A 320 FARM IN SETTLED COMMUNITY, rich soil, no sand; full cost \$200; must have your filing right. Write County Surveyor, Kimball, Neb.

REAL ESTATE WANTED—SELL YOUR property quickly for cash, no matter where located. Particulars free. Real Estate Salesman Co., Dept. 77, Lincoln, Neb.

LIST YOUR FARMS, RANCHES AND city property with me for sale or exchange. R. F. Ginder, real estate specialist, 501 New England Bldg., Topeka, Kan.

FOR SALE—MODERN EIGHT-ROOM house and barn, 3 lots, fruit trees and garden. Mrs. A. E. Jones, 1152 Washburn Ave., Topeka, Kan.

FOUND—320-ACRE HOMESTEAD in settled neighborhood; fine farm land; not sand hills. Cost you \$200 filing fees and all. J. A. Tracy, Kimball, Neb.

KANSAS CITY BUSINESS PROPERTY, 150x50 feet, corner Fifth and Troost Ave., must be sold to settle an estate. A rare bargain in the fastest growing city in the West. Address K. C. Property, care of Kansas Farmer.

FREE GOVERNMENT LAND—NEAR 500,000 acres in Arkansas now open to homestead entry. Guide book with lists, laws, etc., 25c. Township map of state, 25c additional. L. E. Moore, Little Rock, Arkansas.

VICTORIA, AUSTRALIA WANTS SET-tlers; special inducements; government land; railways; free schools; cheap irrigation; 31 years to pay for farms adapted to alfalfa, corn, grains, fruit, etc.; climate like California; ample markets; reduced passages; special excursion next November; free particulars from F. T. A. Fricks, Government Representative from Victoria, 687 Market St., San Francisco, Calif. Box 34.

THE MULTI-CROP COUNTRY.—THERE are good reasons for the influx of farmers to the southern country. They can buy land at low prices and get the increase in value. They can make good money from the crops. They have a healthful climate, pure water and plenty of wood. Ask for literature, free. Wm. Nicholson, Immigration Agent, Kansas City Southern Railway Co., Room 414 K. C. S. Bldg., Kansas City, Mo.

HORSES AND MULES

SHETLAND PONIES FOR SALE, FROM herd of 100. C. H. Clark, Leocompton, Kan.

SHEEP

SHROPSHIRE RAMS FOR SALE, TWO and three years old. For particulars write J. E. Cramer, Sarcosie, Mo.

HONEY.

EXTRACT HONEY, GUARANTEED PURE, \$9.50 for two 60-pound cans. W. P. Morley, Las Animas, Colo.

HONEY FOR SALE—GUARANTEED strictly pure extracted honey for sale in 60-pound cans. The Arkansas Valley Apiares, Cheek & Wallinger, Props., Las Animas, Colo.

CATTLE.

GRADE HOLSTEIN COWS AND HEIF-ers. Arnold & Brady, Manhattan, Kan.

CARLOAD OF TWO-YEAR-OLD HIGH grade Jersey heifers. Geo. Aid, Gallatin, Mo.

FOR SALE—REGISTERED HOLSTEIN bulls. Smith & Hughes, Topeka, Kan. Route 2.

HEREFORD BULL, REGISTERED, TWO years old, weight 1,350; extra good individual. W. L. Snapp, Belleville, Kan.

REGISTERED HOLSTEIN BULL READY for service. Two of his dams averaged 55.261 pounds butter, 7 days, officially. \$125. R. M. Harriman, Appleton, Wis.

FOR THE NEXT 90 DAYS WE ARE DIS-posing of all our Holstein calves, from heavy producing high grade Holstein cows and a very fine registered Holstein sire. The calves are from 6 weeks old, weaned, beautifully marked, strong and vigorous. Either sex, \$17, crated for shipment to any point. If you wish to get a start with good ones, send your order at once. Whitewater Stock Farm, Whitewater, Wis.

HOGS.

REGISTERED HAMPSHIRE—MARCH boars for sale. Write for prices. B. F. Fleischer, Hoyt, Kan.

MY PURE-BRED POLAND CHINA spring pigs are ready for shipment. Boars, \$15 and \$20; sows, \$20 and \$25. The Kenkel Farm, Little Falls, Minn.

FOR SALE—POLAND CHINA SPRING pigs. Best of big-type breeding; \$15 each, September delivery. J. D. Henry, Leocompton, Kan.

TREES, SEEDS AND PLANTS.

WANTED—ALFALFA SEED, SWEET clover, red clover, etc. Send samples. Hayes Seed House, 524-526 N. Kansas Ave., Topeka, Kan.

FOR SALE—ALFALFA, SWEET CLO-ver, red clover, timothy, etc. Samples free. Hayes Seed House, Topeka, Kan.

ENGLISH BLUEGRASS SEED FOR SALE at 10 cents per pound, by A. J. Insko, Phone 6612, Independence, Kan.

FOR SALE—100 TONS GOOD BRIGHT Midland prairie hay. Will load at Wyckoff on M. K. & T. or Neosho Rapids, on Santa Fe. Spencer Bros., Neosho Rapids, Kan.

FOR SALE—200 BUSHELS CHOICE AL-falfa seed; 200 tons alfalfa; 150 stock hogs; 150 pigs. Sample of seed on request. A. G. Beedy, Colby, Kan.

BEE SUPPLIES.

FOR SALE—BEE SUPPLIES, ROOT'S goods. Send for catalog. O. A. Keene, 1600 Seward Ave., Topeka, Kan.

DOGS.

COLLIE PUPPIES, SABLE & WHITE Stock Farms, Seward, Kan.

POULTRY.

BUFF WYANDOTTES—THE UTILITY breed. A splendid lot of youngsters coming on. Wheeler & Wylie, Manhattan, Kan.

S. C. WHITE LEGHORNS, THE KIND that lay eggs. Eggs for hatching, \$1 for 17; \$5 per 100. Write J. L. Shaner, Route 1, Maple Hill, Kan.

FAWN AND WHITE, ALSO PURE White Indian Runners. Pekin Ducks, White Guinea, Geese, Chickens. Stock only. Emma Ahlstedt, Roxbury, Kan.

R. C. RED EGGS FOR HATCHING FROM Ingtons, S. C. W. Leghorns, Indian Runner Ducks. These are all from prize winning stock. Eleanor Poultry Ranch, Brighton, Colo.

BUSINESS SINGLE COMB WHITE LEG-horns. We breed for egg production. Eggs and chicks very reasonable. Satisfaction or your money back. R. W. Gage, Mont Ida, Kansas.

EGGS FOR HATCHING FROM PURE-bred ducks, turkeys and chickens. Poland China pigs, the big easy-keeping kind, \$8 each, \$15 a pair (not related). Mrs. Maggie Rieft, St. Peters, Minn.

I DEFY ANY MAN ANYWHERE to give you better quality in combined bred-to-lay and exhibition S. C. White Leghorn eggs. They cannot do it. Ninety per cent fertility guaranteed. \$1 per 15; \$6 per 100. Send for my illustrated mating list. Geo. E. Mallory, Box 476, Boulder, Colo.

PATENTS.

PATENTS PROCURED OR FEE RE-funded. Official drawings free. Send sketch for free search. Patent Exchange, Jordans Bldg., Washington, D. C.

SITUATION WANTED.

WANTED—BY MARRIED MAN, PLACE to work on farm; house to live in. Would like place by Sept. 1. R. Woods, Alma, Kan.

WANT A JOB AS GAS TRACTOR EN-gineer. Can give best of references as to ability and experience. J. F. Bolton, Route 1, Olpe, Kan.

MRS. FARMER, A CAPABLE, ENER-getic woman will help with or take charge of your canning, sewing, housework. Wages reasonable. Box 47, Route 2, Perry, Kan.

MARRIED MAN, AGE 32, EXPERI-enced farmer, best of references, wants a place on farm by the month; separate house. C. E. Wilkerson, Route 2-13-28, Fredonia, Kan.

PUBLIC AUCTION.

PUBLIC SALE OF REAL ESTATE AND Personal Property.—On Wednesday, September 2, 1914. The S. E. 1/4 of Sec. 24 and the N. E. 1/4 of Sec. 25, T. 13, R. 13, 320 acres, in Auburn Township, Shawnee Co., Kansas. 270 acres tillable, watered by stream, springs and wells. Improvements, good 2-story 8-room house, barn 40 x 80 ft., milk house, chicken house. Land fenced. 20 miles southwest of Topeka, 14 miles northwest of Burlingame, 8 miles northeast of Harveyville, 5 miles from Auburn and Dover. Crop included, consisting of 105 acres corn, 5 acres kafir corn, hay, alfalfa, millet, in barn or stack. Liberal terms, and for further information address owner, J. F. Faimon, Auburn, Kan., or The Dover State Bank, Dover, Kan. There will be sold at the same time 38 cattle, 9 horses, and farm implements. Sale commences at 10 a. m. Land to be sold at 1:30 p. m. J. F. Faimon, Col. W. A. Bowles, auctioneer. H. M. Phillips, clerk.

MISCELLANEOUS.

FOR EXCHANGE—HUNDRED DOLLARS worth home pigeons for motorcycle. Martin Glebler, Catharine, Kan.

1914 TWO-SPEED YALE MOTORCYCLE, demonstrator; used very little; bargain. J. C. Harding Co., 106 E. Sixth St., Topeka.

BUTCHER SHOP AND FIXTURES FOR sale, good business and location. Sam Wedel, Pawnee Rock, Kan.

ENGINE AND PLOW MUST BE SOLD AT once. International 15 H. P. gasoline engine and set of Moline plows, in fine condition, almost new. Don't write, come see this outfit at work. Walter Petty, Route 1, St. Paul, Kan.

Bargains in Land

Buy or Trade with us—Exchange book free Berse Agency, Eldorado, Ka.

WE SELL OR TRADE ANYTHING, ANYWHERE. REALTY EXCHANGE CO., NEWTON, KAN.

BUTLER CO., KAN., SNAP—80 ACRES—All second bottom alfalfa land; well improved and fenced, 4 1/2 mi. to town; only \$80 an acre. Write for full description of this and other snaps. THOMPSON & AKEMAN, Whitewater, Kan.

FOR SALE. 270 acres, two miles from station, 18 miles from Emporia; well improved; excellent water; \$40, per acre. List describing farms and ranches mailed on application. G. W. HURLEY, Emporia, Kansas.

ANY SIZED ARKANSAS FARM, NO ROCKS, hills or swamps, all tillable, general farming and fruit, \$1.50 per acre down, balance 20 years, 6 per cent. Crop failures unknown. E. T. Teter & Co., Little Rock, Ark.

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THOS. DARCY, THE LAND MAN, Offerle, Kansas.

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230 ACRES, 8 miles McAlester; 75 acres tillable, balance pasture, \$12.50 per acre. Worth \$20. \$2,000 incumbrance, 4 years. SOUTHERN REALTY CO., McAlester, Okla.

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Same old story—boys all gone, old folks can't work it. 640-acre farm 4 mi. out, 160 cultivated, balance fenced pasture; 6-room frame house, barn 24x38, cow shed 14x80, three granaries, good well and windmill, some fruit and forest trees. All good soil, smooth farm land; telephones, connections and R. F. D. at door. Price, \$12,500 per acre. Thirty young cows and bunch of young mares may be bought too. Come and see the big crop and buy this farm. E. W. ALBRIGHT, Brewster, Kansas.

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Buy a home in East Kansas, in big oats, alfalfa, corn, wheat and all other crops county. Cheap coal and gas. Best markets. Best climate. 320 highly impd., 40 a. fine alfalfa... \$24,000. 160 highly impd., rich deep soil... 12,000. 160 belongs to non-resident. Snap at. 5,600. 80 a. as fine as can be, fine home... 3,000. 80 a. improved, forced sale... 3,000. Write for list and tell me what you are looking for. D. H. Wallingford, Mound Valley, Kansas.

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A beautiful 240 acres. Smooth, fertile, prairie soil, abundant spring and well water, 45 acres of virgin prairie; two pastures; crops heavy; good improvements; 2 1/2 miles to town, 6 miles to county seat. This splendid stock and grain farm must be sold, part or all, at a bargain. Write to S. C. L. BEWICK, Route 3, Nevada, Mo.

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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.

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ONE OF THE BEST FRUIT RANCHES in famous Canon City fruit belt. Three acres of mature apples—best varieties—fine 7-room house well finished, furnace heated, good brick barn, shingle roof, apple cellar, good outbuildings. Several cherry trees and raspberries. Apple crop which is now two-thirds matured that will be 1,200 to 1,500 boxes and price will be right this year. The place can be bought for \$5,000. One-half can remain at 8 per cent for 3 years. Here is one of the best propositions for a man who has been a hard-working farmer and wants to retire to a fine climate and have a little work a part of the year.

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Registered cows with calves at side and rebred; also heifers and young bulls. Priced right. Come and see them, or address, W. E. HOGAN, Madison, Kansas.

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and other noted bulls; a few young cows that will milk FORTY to SIXTY POUNDS per day, out of richly bred large producing dams. Priced very reasonable. Must reduce my herd on account of other business. Write today.

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400 to select from. Choicest lines of breed-ing in both herds. Can lots a specialty. Registered sires. All stock tuberculin tested. H. L. DUNNING, Genoa Junction, Wis.

F. J. Howard's High-Grade Holsteins. Anyone wanting choice high-grade Holstein cows or heifers should look up the card of F. J. Howard, of Bouckville, N. Y., in this issue of Kansas Farmer. Mr. Howard is offering 100 head of nicely marked cows and heifers due to freshen in September and October. He is also offering fifty head of fancy marked yearlings. This entire offering is tuberculin tested and he is making prices to move them quick. Write him for description and prices. Mention Kansas Farmer.

HOME CIRCLE



If you have had to leave the breakfast dishes until any egg has dried on them, before washing them sprinkle a little salt on them and rub with the fingers. The yellow stain which is so hard to remove will come off easily.

Self Restraint.

"Willie," said mamma, severely, as she noted his dilapidated condition, "you've been fighting again."

"Yes, mamma."

"And didn't you promise me that when

you wanted to hit anyone you would always stand still and count one hundred?"

"So I did, mamma. And this is what Johnnie did while I was counting."

If you have a little fish left over, break it up and mix it with a little chopped celery and a few chopped olives and moisten it all with a little mayonnaise dressing. Spread between thin slices of bread and a pleasing sandwich will be the result.

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This department is prepared especially in New York City for KANSAS FARMER. We can supply our readers with high grade, perfect fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our Fashion Book, EVERY WOMAN HER OWN DRESSMAKER, for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to KANSAS FARMER, Topeka, Kansas.



No. 6039—Boy's Blouse: This blouse is a very nice design for the school boy. It is simple to make and very good looking. The pattern provides for choice of two styles of collar, the sailor or turn-down style. The sleeves are nicely plaited at the bottom. The pattern, No. 6039, is cut in sizes 4 to 12 years. Medium size requires 2 1/2 yards of 36-inch material and 3/4 yard of 27-inch contrasting goods. No. 6771—Ladies' Dress: This frock is simple enough for a house dress and dressy enough for the street. The upper end of the sleeve forms a shoulder yoke and the lower portion of the blouse is plain and full. There is a small ornamental collar. The skirt is a one-piece model. The pattern, No. 6771, is cut in sizes 34 to 44 inches bust measure. Medium size requires of material with border 3 1/2 yards of 46-inch or wider. No. 6228—Novel Yoke Waist: This stylish design has a short yoke at the shoulders in both front and back. It opens quite low in the front and the edges of the openings are trimmed with a handsome notched collar. The sleeves have no fullness at the shoulder and may be elbow length or finished shirt fashion at the wrist. The pattern, No. 6228, is cut in sizes 34 to 42 inches bust measure. Medium size requires 2 1/2 yards of 36-inch material. No. 6734—Ladies' Skirt: Many of the newer skirts show the very long tunic with a straight ripple above the straight underskirt. Two materials are often combined and sometimes two colors and one fabric only. Both foundation skirt and tunic of the above skirt have two pieces and this brings the closing at the side. The pattern, No. 6734, is cut in sizes 22 to 32 inches waist measure. Medium size requires 2 yards of 44-inch plain material and 1 1/2 yards of 36-inch striped goods, or 3 1/2 yards of material 36, 44 or 54 inches wide. No. 6418—Ladies' Skirt: An excellent tailored design suitable for use with a separate coat or as part of a costume is shown in this model. It is a two-gore skirt, with raised waistline, plain in front and slightly gathered across the center of the back. A skirt of this description may be made of linen, cheviot, or serge. The pattern, No. 6418, is cut in sizes 22 to 30 inches waist measure. Medium size requires 2 1/2 yards of material 36, 44 or 54 inches wide. No. 6579—Boy's Suit: Very up-to-date, this little suit shows a blouse which can be made to slip on over the head or to button at the side. In either case the neck is trimmed with a small flat collar. The trousers are buttoned on very high at the waistline and are left open at the knee or made as bloomers, as preferred. Blouse and trousers may be of one or of different materials. The pattern, No. 6579, is cut in sizes 2, 4 and 6 years. Medium size requires one yard of 36-inch material for the blouse and 1 1/2 yards the same width for the trousers. No. 6017—Children's Rompers: Every small girl and boy needs a pair of rompers, and here is an excellent pattern for making such a garment. The rompers close at the back and can be made with either the long or short sleeves. Linen, gingham or percale can be used to make these rompers. The pattern, No. 6017, is cut in sizes 2, 4 and 6 years. Medium size requires 1 1/2 yards of 36-inch material.

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

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Wm. Griffioen, Mitchellville, Iowa.
Henry Koch, Edina, Mo.
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DUROC JERSEY HOGS.

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

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Fall boars and gilts; imported double treatment; best of breeding; good individuality; spring pigs, both sex. Write for prices.

N. D. SIMPSON, Bellaire, Kansas.
Crystal Springs Duroc Jerseys. The Big Prolific Kind. Boars by Bull Moose Col. by King the Col. From big, well bred sows. Write for descriptions and prices.
Arthur A. Patterson, Ellsworth, Kansas.

GOLDEN RULE Duroc Jerseys.
Twenty spring boars, tops of entire crop. Sired by Dreamland Col. and River Bend Col., out of big mature sows. Priced to sell.
LEON CARTER, Asherville, Kan.

Good Enough Again King 35203, the sensational grand champion of Kansas State Fair, 1913, heads our great herd. Forty sows and gilts for sale.

THE MEN WITH THE GUAY ANTEE.
W. W. OTEY & SONS, Winfield, Kan.

DUROC JERSEY BOAR PIGS—Right in breeding and individuality. Write for prices and descriptions.
W. J. HARRISON, Axtell, Kansas.

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 HAMPSHIRE.
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. VITTOREFF, 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.

BRED Gilts, serviceable boars, January and February pigs. Best breeding, well marked. Singly, pairs and trios. Satisfaction guaranteed. Prices reasonable.

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HAMPSHIRE HOGS

All ages. Best families. Champion bred stock. Most profitable and most popular breed. Write your wants.

GEO. MOSHER, Kansas City, Mo.

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

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Fine Stock Auctioneer. Independence, Mo. "Get Zaun. He Knows How." Bell Phone 675 Ind.

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Guarantees his work.

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Fine Stock and General Auctioneer
Powhattan, Kansas.

OFFICIAL KANSAS GRADES.

Under provisions of Chapter No. 222, Laws of 1907, the Grain Grading Commission appointed under said act met pursuant to published call at the governor's office in Topeka, Kansas, on the 15th day of June, 1914, and established the following grades of grain, to be known as Kansas Grades, to be in effect on and after the first day of August, 1914.

J. B. NICHOLSON, Topeka, Kansas.
A. C. BAILEY, Kinsley, Kansas,
Grain Grading Commission.

RULE 1.

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

RULE 2.

General.

All wheat, corn, oats, barley, rye and kafir corn that is in a heated condition, souring, or too damp to be safe for warehouse, or that is badly damaged, dirty, or where different kinds of grain are badly mixed with one another, shall be classed "Sample Grade," and the inspector shall make notation as to the quality and condition and whenever it is evident that wheat screening or other dirt has been mixed into wheat, the same shall not be graded better than sample grade.

RULE 3.

Live Weevil.

Wheat containing live weevil shall not be graded, but the inspector shall give the type of wheat and test weight and note "Live Weevil."

RULE 4.

Plugged Cars.

Inspectors shall in no case make the grade of grain above that of the poorest quality found in any lot of grain inspected, where it has evidently been "plugged" or otherwise improperly loaded for the purpose of deception.

RULE 5.

Reasons for Grading.

All inspectors shall make their reasons for grading below No. 2 fully known by notation on their reports. The weight alone shall not determine the grade.

RULE 6.

The Word "New."

The word "New" shall be inserted in each certificate of inspection of newly harvested wheat until August 1st of each year.

RULE 7.

Reinspections.

All orders for reinspection must be in the office within the first forty-eight hours following the original inspection, and in no case will grain be reinspected after a lapse of three days from the date of the original inspection.

RULE 8.

Claims.

All claims of damages against the inspectors or weighmasters must be filed in the office before the grain has left jurisdiction of this department.

RULE 9.

Mixed Wheat.

In case of an appreciable mixture of hard and soft wheat, red and white wheat, durum and spring wheat, with each other, it shall be graded according to quality thereof and the kind of wheat predominating, shall be classed No. 1, 2, 3 and 4 Mixed Wheat, and the inspector shall make notation describing its character.

RULE 10.

Sulphured Grain.

All oats or barley that has been chemically treated with sulphur shall be classed as "Sulphured Grain," and inspectors shall note same on certificates of inspection.

NOTICE.

These official Kansas Grades are given us by the Grain Grading Commission, and will be the basis of all inspections made. Misunderstandings can be avoided by interested parties making themselves familiar with these rules.

KANSAS TURKEY WHEAT.

No. 1 Kansas Turkey hard winter wheat of the long berry, dark amber colored type of the Turkey varieties, shall be sound, sweet, dry and clean, and shall contain not more than 5 per cent of yellow, hard, and weigh not less than sixty-one pounds to the bushel.

No. 2 Kansas Turkey hard winter wheat of the long berry, dark amber colored type of the Turkey varieties, shall be sound, sweet, dry, and well cleaned, and shall contain not more than 5 per cent yellow hard and weigh not less than fifty-nine pounds to the bushel.

No. 3 Kansas Turkey hard winter wheat of the long berry, dark amber colored type of the Turkey varieties, shall be sound, sweet, dry and clean, and shall contain not more than 5 per cent yellow hard and weigh not less than fifty-six pounds to the bushel.

HARD WINTER WHEAT.

No. 1 Dark Hard.—Shall be hard winter wheat of the dark type, sound, sweet, dry, plump and clean, and may contain not more than 10 per cent yellow hard, and shall weigh not less than sixty-one pounds to the bushel.

No. 2 Dark Hard.—Shall be hard winter wheat of the dark type, sound, sweet, dry and well cleaned, and may contain not more than 10 per cent yellow hard, and shall weigh not less than fifty-nine pounds to the bushel.

No. 3 Dark Hard.—Shall be hard winter wheat of the dark type, sound, sweet, dry; but not clean enough for No. 2, and shall contain not more than 10 per cent yellow hard, and shall weigh not less than fifty-six pounds to the bushel.

No. 4 Dark Hard.—Shall be hard winter wheat of the dark type, tough, sprouted or from other causes so badly damaged as to render it unfit for No. 3, and shall contain not more than 10 per cent yellow hard.

Rules Governing Dark and Yellow Hard Wheat.

Dark hard wheat and yellow hard wheat mixed more than 10 per cent shall grade the wheat predominating—dark and yellow, or yellow and dark—and inspection certificate issued accordingly; and the other specifications for each of these grades shall be the same as for Kansas hard winter wheat of the same grade.

No. 1 Yellow Hard.—Shall be hard winter wheat of the yellow type, sound, sweet, dry, plump and clean, and shall weigh not less than sixty-one pounds to the bushel.

No. 2 Yellow Hard.—Shall be hard winter wheat of the yellow type, sound, sweet, dry and well cleaned, and shall weigh not less than fifty-nine pounds to the bushel.

No. 3 Yellow Hard.—Shall be hard winter wheat of the yellow type, sound, sweet, dry; but not clean enough for No. 2, and shall weigh not less than fifty-six pounds to the bushel.

No. 4 Yellow Hard.—Shall be hard winter wheat of the yellow type, tough, sprouted, or from any cause so badly damaged as to render it unfit for No. 3.

RED WINTER WHEAT.

No. 1 Red Winter.—Shall be red winter wheat, sound, sweet, dry, plump and clean, and shall weigh not less than sixty pounds to the bushel.

No. 2 Red Winter.—Shall be sound, sweet, dry, and well cleaned, may contain not more than 8 per cent of hard winter or

white winter wheat, or both, and weigh not less than fifty-eight pounds to the bushel.

No. 3 Red Winter.—Shall be sound, sweet, dry, may be some bleached, but not clean enough for No. 2, may contain not more than 8 per cent of hard winter or white winter wheat, or both, and shall weigh not less than fifty-five pounds to the bushel.

No. 4 Red Winter.—May be tough, skin-burned or dirty, may contain not more than 8 per cent of hard winter or white winter wheat, or both, must be cool, and shall weigh not less than fifty pounds to the bushel.

WHITE WINTER WHEAT.

No. 1 White Winter Wheat.—Shall be sound, sweet, dry, plump and clean, and shall weigh not less than fifty-eight pounds to the bushel.

No. 2 White Winter Wheat.—Shall be sound, sweet, dry and clean, and not contain more than 8 per cent of red winter or hard winter wheat, and shall weigh not less than fifty-six pounds to the bushel.

No. 3 White Winter Wheat.—Shall be sound, sweet, dry, may be some bleached, but not clean or plump enough for No. 2, and contain not more than 10 per cent of red winter or hard winter wheat, and shall weigh not less than fifty-three pounds to the bushel.

No. 4 White Winter Wheat.—Shall include tough, musty, dirty white winter wheat, not to contain more than 10 per cent of red winter or hard winter wheat, and shall weigh not less than fifty pounds to the bushel.

NORTHERN HARD SPRING WHEAT.

No. 1 Northern Hard Spring.—Must be northern grown spring wheat, sound, sweet, dry and clean, more than 50 per cent of the hard varieties, and weigh not less than fifty-seven pounds to the bushel.

No. 2 Northern Hard Spring.—Must be northern grown spring wheat, not clean, sweet or sound enough for No. 1, more than 50 per cent of the hard varieties, and weigh not less than fifty-six pounds to the bushel.

No. 3 Northern Hard Spring.—Must be northern grown spring wheat of inferior quality, more than 50 per cent of the hard varieties, and weigh not less than fifty-four pounds to the bushel.

No. 4 Northern Hard Spring.—Shall include all inferior, shrunken, northern grown spring wheat that is badly damaged, more than 50 per cent of the hard varieties, and weigh not less than forty-nine pounds to the bushel.

SPRING WHEAT.

No. 1 Dark Spring.—Shall be spring wheat of the dark variety, sound, sweet, dry, plump and clean, and shall weigh not less than fifty-nine pounds to the bushel.

No. 2 Dark Spring.—Shall be spring wheat of the dark variety, sound, sweet, dry, clean and of good milling quality, and shall weigh not less than fifty-seven pounds to the bushel.

No. 3 Dark Spring.—Shall be spring wheat of the dark variety, sweet, but may be some bleached and shrunken, and shall weigh not less than fifty-five pounds to the bushel.

No. 4 Dark Spring.—Shall include spring wheat of the dark variety, tough, musty, sprouted, or that which from any cause is rendered unfit for No. 3, and shall weigh not less than fifty pounds to the bushel.

WHITE SPRING WHEAT.

The grades of Nos. 1, 2, 3 and 4 White Spring Wheat shall correspond with the grades Nos. 1, 2, 3 and 4 Dark Spring Wheat, except they shall be of the white variety.

DURUM (MACARONI) WHEAT.

No. 1 Durum.—Shall be bright, sound, sweet, dry and clean durum wheat, and shall weigh not less than sixty pounds to the bushel.

No. 2 Durum.—Shall be sound, sweet, dry and clean durum wheat, and shall weigh not less than fifty-eight pounds to the bushel.

No. 3 Durum.—Shall be dry, sweet, may be some bleached, or from any cause unfit for No. 2, and shall weigh not less than fifty-five pounds to the bushel.

No. 4 Durum.—Shall include durum wheat that is tough, bleached, or shrunken, and shall weigh not less than fifty pounds to the bushel.

PACIFIC COAST RED AND WHITE WHEAT.

No. 2 Pacific Coast Wheat.—Shall be dry, sound, clean, may be tainted with smut and alkali, and weigh not less than fifty-eight pounds to the bushel.

No. 3 Pacific Coast Wheat.—Shall include all other Pacific Coast wheat, may be smutty or musty, or for any reason unfit for flouring purposes, and weigh not less than fifty-four pounds to the bushel.

(Note.—In case of a mixture of red or white Pacific Coast wheat with our home-grown wheat, such mixture shall be graded Pacific Coast wheat.)

RYE.

No. 1 Rye.—Shall be plump, sound, dry and free from other grain, and well cleaned, and shall weigh fifty-six pounds per bushel.

No. 2 Rye.—Shall be plump, sound and clean, and shall weigh fifty-four pounds per bushel.

No. 3 Rye.—May be shrunken, bleached, and not clean enough for No. 2, and shall weigh not less than fifty-two pounds per bushel.

No. 4 Rye.—To include all tough, musty, dirty rye, unfit for No. 3, and shall weigh not less than fifty pounds per bushel.

OATS.

No. 1 White Oats.—Shall be pure white oats, dry, sweet, sound, clean and free from other grain and weigh not less than thirty-two pounds per bushel.

No. 2 White Oats.—Shall be seven-eighths white, sound, dry, and contain not more than 1 per cent each of dirt or foreign matter, or 3 per cent of other grain, and weigh not less than thirty pounds per bushel.

No. 3 White Oats.—Shall be seven-eighths white, sound, dry, and not more than 3 per cent of dirt or foreign matter nor 5 per cent of other grain.

No. 4 White Oats.—Shall be seven-eighths white, tough, musty, or from any cause unfit for No. 3.

RED OATS.

The grades of Nos. 1, 2, 3 and 4 Red Oats shall correspond with the grades of Nos. 1, 2, 3 and 4 White Oats, except that they shall be of the red variety.

MIXED OATS.

No. 1 Mixed Oats.—Shall be mixed oats of various colors, dry, sound, sweet, clean, and free from other grain, and weigh not less than thirty-two pounds per bushel.

No. 2 Mixed Oats.—Shall be mixed oats of various colors, dry, sound, sweet, and not more than 2 per cent of dirt or foreign matter or 3 per cent of other grain, and weigh twenty-eight pounds per bushel.

No. 3 Mixed Oats.—Shall be mixed oats of various colors, sweet, and shall not contain more than 3 per cent of dirt or foreign matter or 5 per cent of other grain, and weigh twenty-four pounds per bushel.

No. 4 Mixed Oats.—Shall be mixed oats, tough, dirty, or from any cause unfit for No. 3.

STANDARD WHITE OATS.

Shall be seven-eighths white, sound, sweet, and shall not contain more than 3 per cent of dirt or foreign matter or 5 per cent of other grain.

BARLEY.

No. 1 Barley.—Shall be sound, bright, sweet, clean and free from other grain, and weigh forty-eight pounds per bushel.

No. 2 Barley.—Shall be sound, dry and of

SHORTHORN CATTLE

LOOKABAUGH'S SHORTHORNS.

At private sale. Six months time if desired. Young heifers and bulls, \$10.00 and up. Two heifers and one bull, \$25.00 for the three. Others higher. High-class herd bulls close to imported Scotch dams, sired by such sires as Lavender Lord by Avondale. Nicely bred young heifers from milking strains. Young bulls, the farmer's kind. Cows with calf at foot and rebred. Great variety of prize-winning blood. If you want breeding stock, do not miss this opportunity. My foundation Shorthorns carry the blood of the best families and most noted sires of breed. Over 200 head from which to select. If you cannot come, write.

H. C. LOOKABAUGH, Watonga, Blaine County, Oklahoma.

good color, and weigh forty-six pounds per bushel.

No. 3 Barley.—Shall include shrunken, stained, dry barley, unfit to grade No. 2, and weigh forty-four pounds per bushel.

No. 4 Barley.—Shall include tough, musty, dirty barley.

SPELTZ.

No. 1 Speltz.—Shall be bright, sound, dry and free from other grain.

No. 2 Speltz.—Shall be sound and dry, and not contain more than 10 per cent of other grain.

No. 3 Speltz.—Shall be dry, not sound enough for No. 2, and contain not more than 10 per cent of other grain.

No. 4 Speltz.—To include all speltz that is dirty, musty or tough.

The tentative grades for commercial corn formulated by the U. S. Department of Agriculture and adopted by the Kansas Grain Grading Commission follow:

Grade Classification.	White, Yellow and Mixed Corn.	Maximum Percentage of Moisture.	Maximum Percentage of Damaged Corn, Exclusive of "Heat Damaged" or "Mashed" Corn.	Maximum Percentage of Foreign Material, Including Broken Corn, Other Grains, etc.	Maximum Percentage of "Cracked" Corn, Not Including Finely Broken.
No. 1	14.0	14.0	1.0	1.0	1.0
No. 2	15.0	15.0	1.0	1.0	1.0
No. 3	17.5	17.5	1.0	1.0	1.0
No. 4	19.5	19.5	1.0	1.0	1.0
No. 5	21.0	21.0	1.0	1.0	1.0
No. 6	25.0	25.0	1.0	1.0	1.0

Sample—See General Rule No. 6 for Sample Grade.

GENERAL RULES.

1. The corn in Grades No. 1 to No. 5 inclusive must be sweet.

2. White corn, all grades, shall be at least 98 per cent white.

3. Yellow corn, all grades, shall be at least 95 per cent yellow.

4. Mixed corn, all grades, shall include corn of various colors not coming within the limits for color, as provided for under white or yellow corn.

5. In addition to the limits indicated, No. 6 corn may be musty, sour, and may also include corn of inferior quality, such as immature or badly blistered.

6. All corn that does not meet the requirements of either of the six numerical grades, by reason of an excessive percentage of moisture, damaged kernels, foreign material, badly broken corn, or corn that is hot, heat damaged, fire burnt, infested with live weevil, or otherwise of distinctly low quality, shall be classed as sample grade.

7. In No. 6 and sample grade, reasons for so grading shall be stated on the inspector's ticket or certificate.

8. Finely broken corn shall include all broken particles of corn that will pass through an 8 x 8 wire sieve, the diameter of the wire to be twenty-five thousandths of an inch.

9. Badly broken or "cracked" corn shall include all broken pieces of kernels that will pass through a 4 x 4 mesh wire sieve, the diameter of the wire to be thirty-six thousandths of an inch, except that the finely broken corn as provided for under Rule 8 shall not be considered as badly broken or "cracked" corn.

10. It is understood that the damaged corn: the foreign material, including cob, dirt, finely broken corn, other grains, etc., and the badly broken or "cracked" corn, as provided for under the various grades, shall be such as occur naturally in corn when handled under good commercial conditions.

11. Moisture percentages, as provided for in these grade specifications, shall conform to results obtained by the standard method and tester as described in Circular 72, Bureau of Plant Industry, U. S. Department of Agriculture.

KAFIR CORN.

No. 1 White Kafir Corn.—Shall be pure white, of choice quality, sound, dry and well cleaned.

No. 2 White Kafir Corn.—Shall be seven-eighths white, sound, dry and clean.

No. 3 White Kafir Corn.—Shall be seven-eighths white, not dry or clean or sound enough for No. 2.

No. 4 White Kafir Corn.—Shall be seven-eighths white, tough, damaged, musty or dirty.

RED KAFIR CORN.

The grades of Nos. 1, 2, 3 and 4 Red Kafir Corn shall correspond with grades Nos. 1, 2, 3 and 4 White Kafir Corn, except that they shall be of the red variety.

MIXED KAFIR CORN.

No. 1 Mixed Kafir Corn.—Shall be mixed kafir corn of choice quality, sound, dry and well cleaned.

No. 2 Mixed Kafir Corn.—Shall be mixed kafir corn, sound, dry and clean.

No. 3 Mixed Kafir Corn.—Shall be mixed kafir corn, not clean, dry or sound enough for No. 2.

No. 4 Mixed Kafir Corn.—Shall be mixed kafir corn, tough, musty or dirty.

MILLO MAIZE.

No. 1 Millo Maize.—Shall be millo maize of choice quality, sound, dry, and well cleaned.

No. 2 Millo Maize.—Shall be millo maize that is sound, dry and clean.

No. 3 Millo Maize.—Shall be millo maize that is not dry or sound enough for No. 2.

No. 4 Millo Maize.—Shall include all millo maize that is tough, musty or dirty.

SORGHUM SEED.

Sorghum seed to be under the same general rule as kafir.

The foregoing are the rules adopted by the Kansas State Grain Inspection Department establishing a proper number and standard of grades for the inspection of grain. The same to take effect on and after August 1, 1914, in lieu of all rules on the same subject heretofore existing.

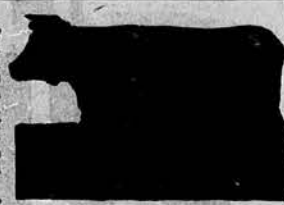
GEO. B. ROSS,
Chief Inspector, Topeka, Kansas.

CORN HARVESTER

All steel, will last a lifetime. Only weighs 175 lbs. Either 1 or 2 men. One horse cuts 2 rows. Sold direct at wholesale prices. Every machine warranted. We also make the Jayhawk Stacker and Sweep Rakes. Prices very low. Write today for free circular—it will pay you.

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

SHORTHORN CATTLE



RIVERSIDE SHORTHORNS

Am offering ten head of nicely-bred females, reds and roans. Clipper Model 388430 and King Clipper 388431 at head of herd.

H. H. HOLMES,
Great Bend, Kansas.

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.

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.

OAK GROVE SHORTHORNS.

Every cow straight Scotch. Herd bull, White Starlight by Searchlight; Choice Goods, dam.

ROBT. SCHULZ, Holton, Kan.

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, A173859, and Logan Price. Booking orders for spring pigs in pairs or trios. Prices reasonable.

OLIVIER & SONS, Danville, 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.

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 80 spring boars. Prices right.

HUBERT J. GRIFFITHS, Clay Center, Kan.

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 Poland

We are not the originator, but the preserver, of the

Old Original Big-Boned Spotted Poland.

Write your wants. Address

H. L. FAULKNER, Box K, Jamesport

IMPROVED 1915 MODEL BULL TRACTOR \$395.⁰⁰

SIX NEW IMPORTANT IMPROVEMENTS NOW ANNOUNCED

\$435.00 F. O. B. KANSAS CITY

SIX BIG IMPROVEMENTS IN THE 1915 MODEL NOW BRING THE BULL TRACTOR AS NEAR PERFECTION AS IS POSSIBLE TO HUMAN EFFORT.

- No. 1—Magnet, Dual System.
No. 2—Force Feed Oiling System in addition to the Splash system.
No. 3—New Bronze Bushing, Nickel, Babbitt-Lined Connecting Rod Bearings and High Pressure Crank Shaft Bearings.

- No. 4—Improved Governor. Engine can't race.
No. 5—Improved Heavy Steel Counter Shaft Gear.
No. 6—Improved Hitch, eliminating all side draft.

These Improvements Render the Bull Tractor More Efficient, Easier to Operate, Simpler to Keep in Shape, and More Durable and Economical.

\$1,000,000.00

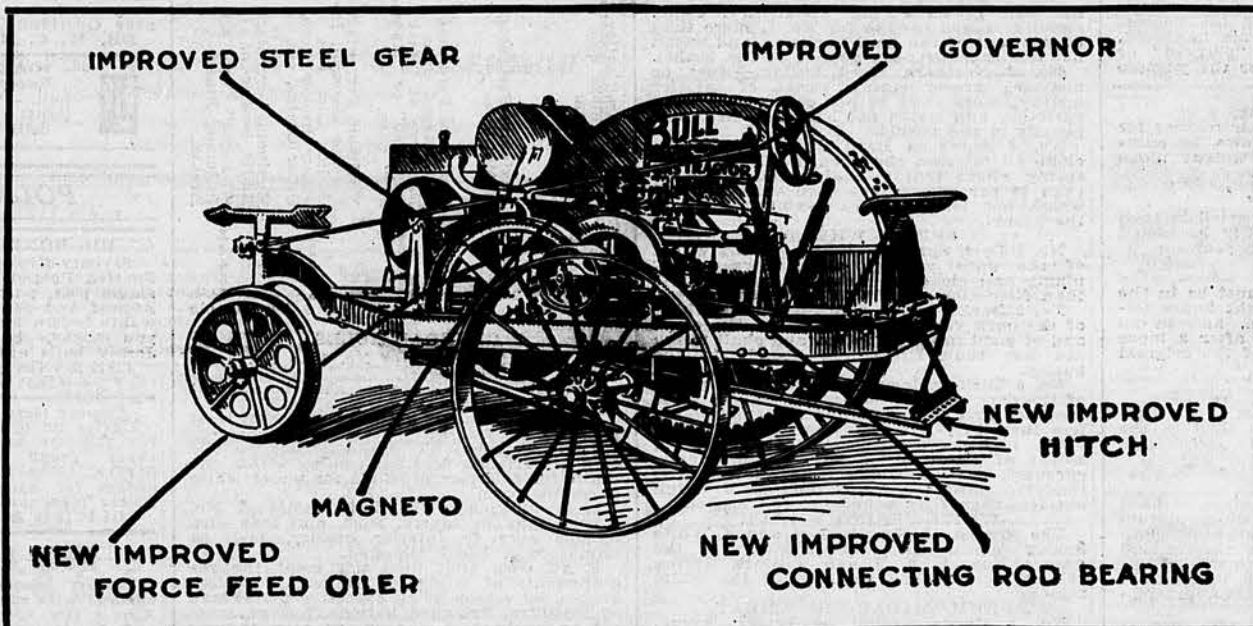
Guarantee

Behind this Bull Tractor is the strongest, most reliable and fairest guarantee ever written.

The Bull Tractor Company is a million dollar concern and backs this guarantee with every dollar of its assets.

We not only guarantee against every defect of workmanship and material, but we positively guarantee that the Bull Tractor will in average soil do the work of five horses at draw-bar.

Furthermore, we keep factory experts in the field who inspect and make adjustments free of charge.



FILLS SILOS

12 Horses Couldn't Do This Job.

Now is the silo-filling and ensilage-cutting season, and the Bull Tractor does the work. Read this testimonial from Kiowa, Kansas: Kiowa, Kan., Aug. 7, 1914.

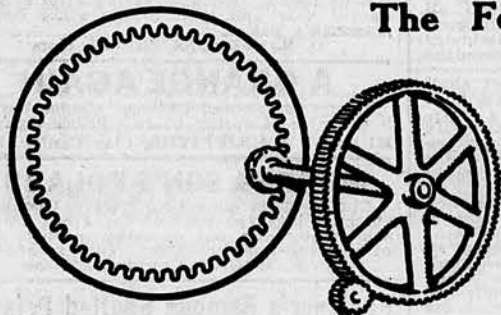
This Bull Tractor is pulling a 16-inch 8 m. alloy ensilage cutter with blower, but on account of this being a pit silo they are only blowing the ensilage about twelve feet high and then goes through the distributor.

A horse power with twelve horses and mules on it was tried on this same machine and they could not pull it at all.

This was taken on the farm of Garnett Mott, three miles south of Kiowa, Kan. BENTON & IVES, Dealers.

SINGLE BULL WHEEL

The Feature That Has Revolutionized Power Farming



This feature, from which the Tractor gets its name, is the real distinguishing characteristic about which the machine is built. It stands five feet high, with a steel rim face of 12 inches, on which are placed either cones or bars at preference of buyer. The construction of this wheel is wonderfully durable. To it is attached the bull gear and over its engine side and top is placed a heavy sheet iron casing to protect the engine from dust as well as the operator from danger. Steel spokes, latest pattern hub, and crucible steel bull gear in four sections.

This Amazing Low Price Made Possible by Simplicity of Construction

The Bull Tractor costs \$1,000 less than any reliable Tractor on the market and will do the work of any Tractor made. The reason for the low price of the Bull Tractor lies in its wonderful mechanical construction. Its single Bull Wheel is the real distinguishing characteristic of the machine. This wheel is five feet high and connects directly with the engine gearing. Hence there is no transmission or differential, and 10 per cent of the power developed pulls the Tractor. The Bull Tractor has been proven out on hundreds of farms, and its recent trial at Newton, Kansas, was the wonder of the Tractor world.

We are demonstrating this Tractor in Kansas City by pulling one gang of two 14-inch Plows in Missouri River Gumbo.

COSTS LESS THAN GOOD TEAM. If you want a Bull Tractor for work this summer, you should lose no time in placing your order. This wonderful little **PULLS LOAD OF FIVE HORSES.** Tractor does all the work you want at the lowest expense. It enables you to plow deep, plow early, to stay in the fields all day when horses would be exhausted. It costs only half as much for gasoline as for horse feed and does better work than half a dozen teams could do.

The Bull Tractor is a three-wheel machine—two in a hard smooth furrow, one on the stubble. Will pull two 14-inch stubble plows in any ordinary soil.

**EVERY FARMER
CAN NOW
OWN A TRACTOR.
YOU NEED
YOURS TODAY.**

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This Tractor was designed by Mr. Hart-sough, who built the Big Four Thirty, and by perfecting this Tractor has provided the farmers of the country with a machine that they have been looking for for years, and that will enable any farmer to shorten his hours and save a risky investment in horse flesh. However, the demand for Bull Tractors is so great that we are shipping out carloads every day, and it seems possible that the demand will soon outstrip the supply.

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