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Hessian Fly and Greater Wheat Straw-Worm

By T. J. Headlee, Professor of Entomology Kansas
State Agricultural College.

In sending the following press bulletin on the subject of Hessian fly and greater wheat straw-worm, Professor Headlee writes: "This information should be in the hands of every grower of wheat because: (1) these insects, particularly the former, do such large damage (our 1908 crop suffered a loss of about 10,000,000 bushels) that anything which will materially reduce the loss means an immense saving; (2) while the indications are that the total damage from these insects, owing to late sowing and spring weather conditions unfavorable to the fly, will be greatly reduced, considerable harm will be accomplished in limited localities; (3) the appearance of even slight damage means that they may do great harm next year and that the grower should take measures to prevent that harm; (4) this bulletin states the case in so simple and practical a way that after reading it carefully, any man can examine his wheat fields and diagnose with certainty the work of these insects and then take efficient measures to prevent a very large share of the harm they do; (5) this information is based upon a practical study carried forward in Kansas wheat fields during the past two years, and offers thoroughly up-to-date information.

"We have been in close touch with the work of the fly and incidentally that of the greater wheat straw-worm since I found the flies in alarming numbers in Sumner county in late September of 1907. Besides carrying forward a study of these insects at Manhattan, since March, 1908, we have maintained a special agent who has studied the fly in the fields where it has done most damage.

"Last summer we published 20,000 copies of press bulletin No. 163 on the Hessian fly and later the usual number of copies of press bulletin No. 165 on the greater wheat straw-worm. You may perhaps feel that this should be enough on the subject, but to be effective the press bulletin should be timely and should embody the most recent and best information that can be obtained. New conditions and new discoveries render constant changes necessary. No one can say whether the 1910 wheat crop will or will not suffer severely from either Hessian fly or greater wheat straw-worm, but he can say definitely that wherever their damage appears in this year's crop, the 1910 crop is very likely to suffer severely. I want the farmer to know whether he is thus threatened and to know what measures will insure his escape from most of the harm that he would otherwise experience. I have, therefore, written this press bulletin based upon our now almost two years' experience, coupled with a knowledge of what has been done elsewhere in this and other countries, and am respectfully asking you to cooperate by giving the information to your readers."

Although the damage from Hessian fly may show a marked reduction this year, limited localities will suffer severely from it and the greater wheat straw-worm. The grower should go into his field at harvest time and ascertain whether these insects have been doing him harm, and, should he find them, take measures to prevent them from working harm to his next year's crop. To help him in following these suggestions this bulletin describes how the work of these insects may be recognized and gives practical

methods of preventing their injury. Attention has been confined to them because they, of the insects most likely to damage the 1910 crop seriously, are the ones against which effective measures may be taken between now and next wheat-sowing time.

HOW TO TELL THE WORK OF THE HESSIAN FLY.

The wheat stem is marked at intervals with ring-like enlargements known as joints. Arising from the upper edge of these joints, the basal part of the leaf winds tightly about the straw for some distance upward, then branches off as the ordinary leaf-blade. The straw infested with Hessian fly breaks over just above a joint, which, while it varies considerably in location, is usually a relatively short distance above the ground. If the grower will carefully pull the leaf away from the stalk where it is broken over, he will find lying in a little dent lengthwise in the straw an oval, dark-brown, seed-like body one-fourth of an inch or less long. This is the "flaxseed" stake of Hessian fly and is

sometimes improperly spoken of as the "egg" of the fly. Sometimes, through careless handling or other causes, the "flaxseed" will be gone and only the little dent in the straw left as evidence of its former presence. If the grower does not find the "flaxseed" in the first examined, he should continue to examine broken straws until he does find it, or until he is convinced that the fly did not do the work.

HOW TO TELL THE WORK OF THE GREATER WHEAT STRAW-WORM.

Like Hessian fly, the work of this insect becomes evident at harvest time. The location of the point at which the infested straw breaks over varies considerably, but is usually a relatively short distance below the head. If the wheat grower will take his pocket-knife and split the broken straw from end to end he will find either in or just above a joint, entirely inside the straw, a small greenish-yellow grub, less than one-fifth of an inch long. Sometimes the grub will have been sliced and destroyed by the

knife and the grower must continue to split the fallen straws until he finds it, or is satisfied that the damage is due to some other cause.

HOW TO CONTROL HESSIAN FLY.

The practise of following wheat with wheat, while exceptionally favorable to the increase of fly, is so general in our large wheat-growing counties that the "steps" in fly-control have been selected and tested in accordance with this practise. Those desiring to use rotation as a means of controlling the fly and straw-worm would do well to consult a more extended treatment of these insects.

STEPS IN ITS CONTROL.

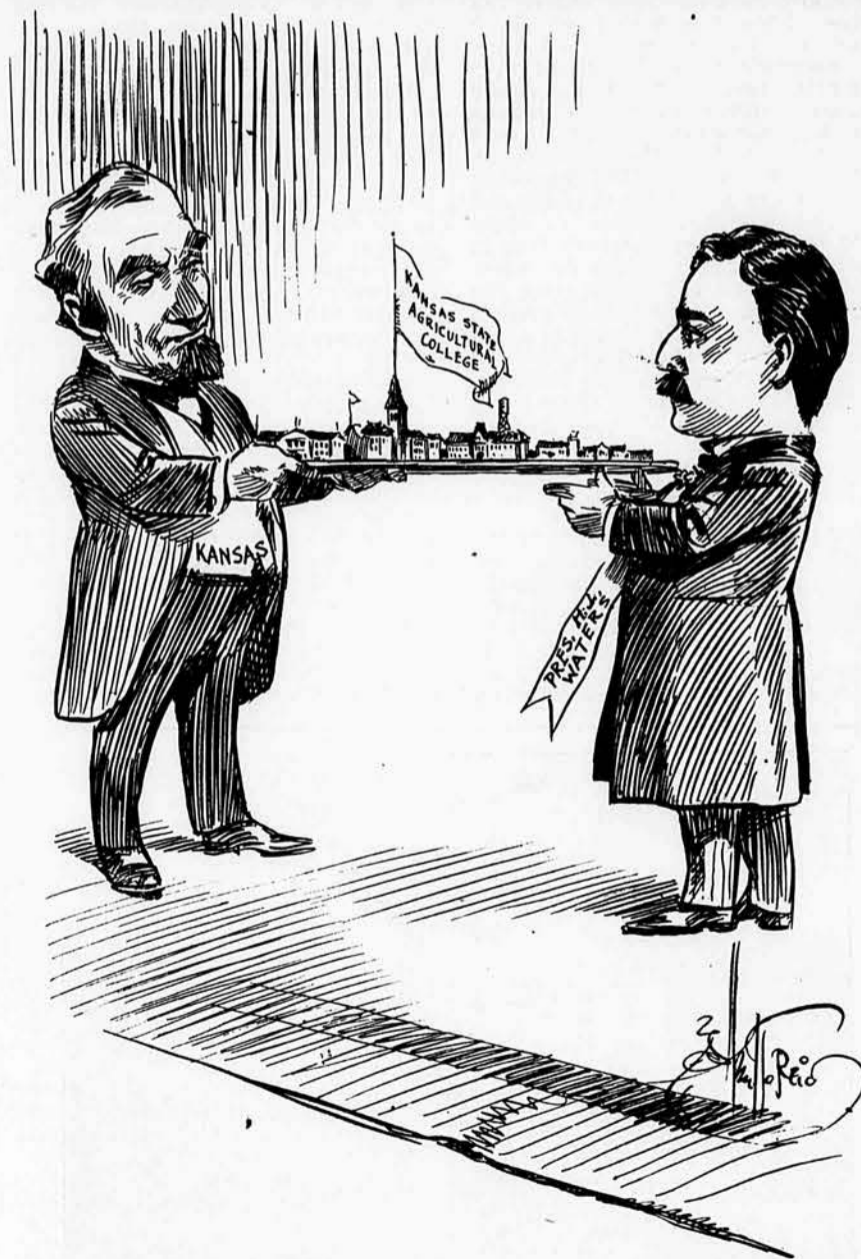
1. Disking. The disk should follow the binder or header just as soon as possible. This will throw out a large percentage of the flax-seeds, that would otherwise be protected by lying in the stubble below the surface, so that their parasitic enemies can attack them. The disking will conserve the soil moisture, render the plowing easier, and start the volunteer wheat and the weeds.

2. Plowing. Follow the disk in from two to four weeks by the plow. Set the plow to run five or six inches deep and so completely turn the land that all fly-infested stubble, volunteer wheat, weeds and rubbish generally, shall be thrown exactly into the bottom of the furrow and the whole surface slice turned over on it. Compact this plowed land into a good seed-bed with implements that will not pull the stubble to the surface, and you will have about four inches of compact soil between the fly and daylight. Very few of the flies thus covered will ever get out. Experiments at Manhattan and Fort Hays have shown that plowing five or six inches deep produces a considerably better yield than shallow plowing or disking alone, but they also show that the plowing should be completed by the middle of August. This serves to indicate that the type of plowing that is needed for the fly is also best for securing the largest yield of wheat when no fly is present.

3. Destruction of Volunteer Wheat. All volunteer wheat should be kept down from the time the seed-bed is prepared until the crop is sown, in order that it may not serve to carry the fly over to the main crop.

4. Late Sowing. Sow the wheat at such a time as will enable it to get above the ground after the majority of the flies have emerged and deposited their eggs. The date for any one year in any locality can be determined by any one who has studied the fly enough to be able to follow its changes. It has not been practicable in the past to pursue this method, and trial sowings have been resorted to to find the date. Experimental sowings in 1907 at Marysville, Manhattan, Sedgwick, and Caldwell, and in 1908 at Norton, Wilson, Great Bend, Sawyer, Caldwell, Wellington, Sedgwick, Manhattan and Marysville indicate that wheat sown in the northern one-third of the state after September 30, in the central one-third after October 7, and in the southern one-third after October 15 will be completely free from the fall brood of Hessian fly and relatively free for the entire period of its growth. The date when wheat may be sown to produce the largest yield has not been worked out for all parts of the state, but is probably later than is usually thought. Professor TenEyck finds at Manhattan that, other things being

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"Here, Mr. Waters, is a Great Opportunity and a Great Responsibility. Know I can Depend on you."

SOIL MOISTURE PROBLEMS

How to Make Moisture Available to our Crops, by

H. R. HILTON,

Port Allegany, Pa.. "Formerly of Kansas."

The first rain drop trickles slowly down the surface of the dry window pane marking its path with a thin film of moisture. It stops when its volume is so far reduced that the force of adhesion overcomes the force of gravity. There it stops till another rain drop finds its trail, follows rapidly along all the curves of the moist track till it overtakes and by the added weight carries it still further down. So the rain descends into the dry soil, slowing spreading itself in a thin film over the surface of each soil grain, till it finds its way through the dry earth mulch to the moist soil beneath, its progress hindered by the trapped air and delayed by friction. Once a connection is made between the falling rain above and the moist soil below, then there is laid a moist track over which the rain water can descend toward the subsoil at a greatly increased speed insuring a greater intake and a lessened surface waste.

The first of the rain descending through a dry soil by gravity carries a bead on the front end that fills all the spaces, thus trapping the air and delaying its downward movement. But when the rain comes in contact with the moist soil, it spreads more rapidly downward by simply thickening the films of water leaving a way for the crowded air to escape without being trapped.

A moist mop rag rapidly soaks up the water spilled on the floor. A dry rag absorbs slowly on first contact with the water. A moist soil is absorptive and greedily drinks in the falling rain. A dry soil offers resistance and friction and sips where the moist soil gulps the water down. The moist soil sucks the water down deep into the soil; the dry soil resisting the downward flow of a heavy shower helps in the formation of a mud blanket on the surface, which quickly loses its water contents to the air and leaves instead a hardened crust.

A dry clay soil, well pulverized, will hold one inch of water within two and one-half inches of the surface, and a sandy loam soil will hold it within three inches. An inch of rain may fall on a finely pulverized clay dry earth mulch of over three inches in depth and fail to connect with the moist soil beneath. In that event, the entire inch of water is quickly evaporated by the sun and wind, leaving only a dry crust to mark its presence. It rendered no service to the growing crop and no benefit to the mechanical condition of the surface soil.

The value of a two or three inch dry earth mulch in preventing serious loss of the moisture in the soil by surface evaporation, has been well attested, but this serviceable practise suggests one of our problems: How can any part of a shower of less than an inch be added to the store of soil moisture beneath, while a protecting mulch of two to three inches of dry soil intervenes?

WATER SURFACE IN THE SOIL.

The rock fragments that make up 95 per cent of our soils, we classify according to their sizes into clay, silt and sand, subdividing each of these again into fine and coarse grades. The finer the division of these soil particles, the more surface will be exposed to which moisture can cling, hence the more water a given bulk of soil will hold. For instance, a marble one inch in diameter placed in a cubic inch box, will touch at six sides and occupy a little over half the space in the box. The surface of the marble presents a little more than three square inches of surface. Reduce the size of the marbles to one-tenth of an inch in diameter, and one thousand of them will be required to fill the same box, and will occupy the same amount of space. But the surface exposed will be ten times greater, or plus 31 inches. It will take 1,000,000 of one-hundredth inch diameter and 1,000,000,000 of one-thousandth inch diameter to fill the inch cube, the latter giving a surface, if spread out flat, equal to 31,416 square inches, or in a cubic foot 37,700 square feet, or seven-eighths of an acre. This would be the equivalent of a medium silt soil. In a section of soil one foot square and four feet deep, there would be nearly three and a half acres of exposed surface over which water can spread itself.

As each foot in depth can hold back from drainage three to three and a half inches of water, it can readily be seen what a large amount of water can be held within the reach of plant roots when it is spread in a thin film over this amount of surface.

WATER FILMS.

The water films that the descending rain spreads over the soil grains, is thickest in the angles around the points where these touch each other. Oranges packed in a box in square form, one resting directly on top of the other, have each six points of contact, and the open spaces between are nearly equal in volume to that occupied by the oranges. If packed in pyramid form as we see them on fruit stands, each orange has eight points of contact, and the open spaces between are reduced to about 27 per cent. When thorough tillage pulverizes the soil to a loosely uniform condition free from cavities and with many points of contact, then it is in a condition to hold back from drainage the largest possible quantity of water. A soil that under ordinary tillage has a water holding capacity of three inches for each foot in depth may, by more thorough stirring, have its capacity for holding water increased to three and a half inches.

DEGREES OF SATURATION.

When the rain water has passed through the first foot of average loam soil and drainage has ceased there is left clinging to the soil grains about three inches of water. Under these conditions the soil would occupy about one-half of the space, the water one-fourth, and the air one-fourth, a proportion highly favorable to plant life in summer weather. Three inches of water in a foot depth of soil means half saturation, or the period when films are thickest. One and a half inches of water in a foot of depth means quarter saturation, and when the water films are thinned down to this point, plant growth is practically at a stand still, so that in the average soil the gross quantity of water held back from drainage is three inches, and the quantity available to promote germ life and plant growth in the soil is one and a half inches or about 1,700 tons per acre for each foot in depth. Roots that forage for water and food three feet down from the surface, could with the aid of surface tension, command six inches of available water in four feet in depth of soil. When this quantity is removed, the films are too thin to nourish the plant properly and if these are not thickened by a fresh supply, plant growth almost ceases and plant vitality is weakened.

THE MOVEMENT OF WATER.

A thick rubber band held over the thumbs of each hand with gentle pressure represents the water films in the soil when half saturated, and quarter saturation is represented when the band is stretched to its full limit without breaking. Note the difference in pressure against the thumbs when

the band is at rest and when it is fully stretched. While acting under a different law yet in a similar way the water film clings or adheres most firmly to the soil grain it surrounds when it is thinnest, and with the least tension when it is thickest. The tension of the thin film seems to set up a strain or pull that draws upon the thicker film of its nearest neighbor. Whatever the cause, it is fairly determined that the water in the soil is constantly in motion while the quantity exceeds quarter saturation and the movement in the soil is always from the thickest films to the thinnest ones, regardless of direction in an effort to equalize their differences, and bring the films to an equal thickness throughout the mass of soil of equal texture. In other words, the movement of the water is always from the point in the soil where water is most abundant toward the point in the soil of like texture where it is least abundant so long as the films are continuous and remain unbroken. A continuous film seems to be just as necessary to water movement in the soil, other than by gravity, that a complete circuit is to an electric current. The movement by formation of water vapor is probably quite small and its discussion too technical to have a place in this contribution. The influence of temperature and alkaline salts on the tension of soil water, will also be disregarded.

HOW THE WATER GETS IN.

While the rain is falling, the thickest films are then at the surface. As soon as connection is made with the moist soil below where the films are thinner, the water is pulled down into the soil by surface tension aided by gravity, till the thickness of the film is equal at all points as far down as the supply will go. After the rain has ceased falling, the sun and the wind start thinning the films at the surface. This reverses the movement. A continuous stream is now started toward the surface which moves freely the first day, while the film water in the soil below is near half saturation, and that at the surface is above quarter saturation. As the films grow thinner at the surface and relatively so in the subsurface, the movement towards the surface gradually slackens. After the third day in midsummer weather, the mass of rootlets in the soil will intercept and appropriate any further movement from the lower levels.

Prompt stirring of the soil as soon after a rain as it can be properly worked, loosens the surface soil, exposes the surface films to quick evaporation, and thus breaks the continuous circuit with the surface. If this can be done the first day, more water will be saved for the plant than if done on the second or third day. The value of the earth mulch lies in its dryness, and it matters not whether it is loose, or whether it is made as fine as dust, if it is dry, water will not rise through it to the surface from a soil less than half saturated. It has

lost its pulling power in losing the water films by evaporation from the freshly stirred surface soil.

Sandy soils and soils naturally rich in humus come nearest to being self-mulching. Clay soils that puddle readily or run-down soils, suffer greatest loss by surface evaporation.

TRAPPED AIR.

Here is an instructive experiment that any boy on the farm can make. Take two olive bottles or any glass vessel of similar depth. Place a lemonade straw or any small tube that will make an air vent, in one of the bottles. Fill both bottles with dry soil from the same sample. See that the top inch is finely pulverized. Leave an inch space on top for the water, and keep adding water so that the surface is always covered with it at least half an inch deep. Now watch the water wetting the soil to the bottom in each bottle and record the time. The water in the bottle with the straw or air vent will usually reach the bottom in fifteen minutes, but in the bottle without the air vent, the air is trapped, and as the water descends filling all the spaces, it is compressed, which gives it power to force a way through the muddy soil and water. It comes up with a small explosion like a miniature volcano. After each explosion the compression is relieved and the water descends more rapidly for a few seconds. But the interesting thing to note is, that as the water descends, the escaping air forms a mud chimney through which all the air escapes under pressure; and when in about an hour the water has reached the bottom, there will be a hole about the size of a slate pencil through the entire depth of the soil. This air vent often attributed to the action of worms may be found in plowed fields after very heavy showers that puddle the surface and hold the water there for a time.

The office of the drain tile laid several feet below the surface is not merely to remove the surface water. It performs an equally important office in furnishing an outlet for the trapped air, and as the air escapes into the drain tile, the surplus water more quickly follows. It is also a valuable means of soil ventilation, and when the air that enters the outlet of the tile drains is warmer than the soil through which it passes from the drain tiles to the surface, there will be a certain amount of moisture condensed from this warmer air and added to the supply in the soil.

The presence of a drain tile through which trapped or compressed air can escape, permits the summer shower to spread itself deeper into the soil thus lessening the loss by evaporation at the surface, and may explain why a drained soil has more moisture in a dry time than an undrained soil.

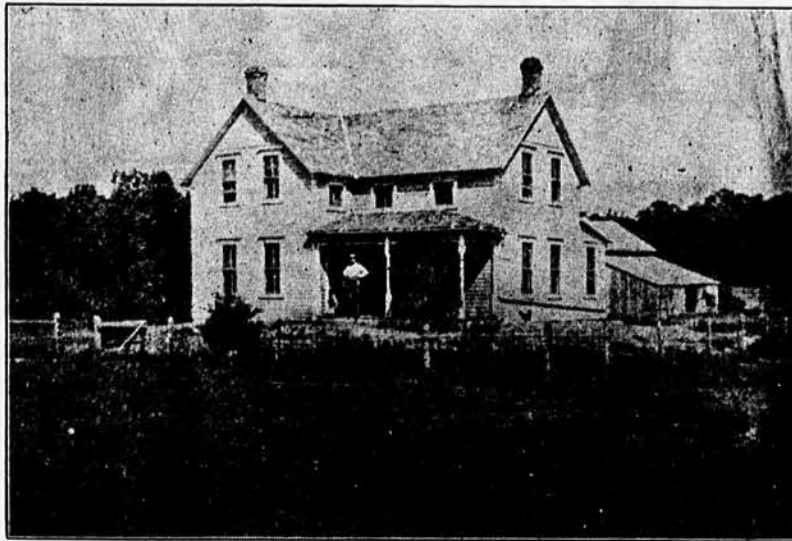
TILLAGE.

How often we read in our farm papers that it is important to loosen the soil by plowing and cultivation that it may hold more water, and yet the reverse is much nearer the truth. Get a glass tube one to two inches in diameter. Place a piece of cotton cloth over one end and wrap a few times near the end of the tube with strong twine and tie firmly to hold the cloth in place. Fill loosely with fine, dry soil so as to leave cavities. Pour on top and watch how the water follows where the soil is finest and when it comes to a cavity, how it goes around it and never through it. If glass tubes are not obtainable, the olive bottle with a lemonade straw for an air vent will answer.

The freshly plowed soil is not in condition to receive the falling rain until it is thoroughly mixed to secure as nearly uniform an arrangement of the soil particles as is possible without undue compression, that both air and water may have free access, and that there may be enough points of contact to prevent further collapse of the soil into a more compact form.

A whole year's rain will usually settle the soil grains in a compact mass. If this is plowed six inches deep, the soil so loosened will occupy a space eight inches deep, and yet nothing has been added but air space. If left thus a heavy rain would settle this loose soil into almost as compact a form as it was before plowing by slip-

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Farm Home of John Schmitt, Tipton, Kan. Breeder of Hereford Cattle.

LIVE STOCK



American plows and cultivators are turning up the soil in more than 70 countries and colonies of the world—in Japan in 1908, 22 thousand dollars' worth, in Asiatic Turkey 14 thousand dollars, in New Zealand 50 thousand dollars, in British South Africa 222 thousand dollars (in Portuguese Africa 31 thousand dollars, in Cuba 85 thousand dollars' worth; while Argentina took in 1908, 780 thousand dollars' worth, Canada 474 thousand dollars, Russia in Europe 259 thousand, and Asiatic Russia 7½ thousand dollars' worth.

The Cattle Situation.

More than half the population of the United States lives in less than one-seventh of its total area—i. e. in the manufacturing section, which includes the area north of the Potomac and Ohio rivers and east of the Mississippi.

Within this comparatively small section, or 14.1 per cent of the whole country, according to the last census, 77 per cent of the total manufacturers of the United States are produced, more than four-fifths of the total salaries and wages of manufacturing are paid, and more than 69 per cent of the total assessed value of the real and personal property exists.

Here then is the great consuming area.

On the other hand, eliminating the

figures for Illinois and Wisconsin, which are properly classed with the cattle-producing states, less than 12 per cent of the beef cattle and barely 17 per cent of all cattle of the United States were in this manufacturing district January 1, 1909, according to the latest Government figures, while 82 per cent or more than four-fifths of the cattle of all kinds were in outside states, principally West and Southwest. Over 70 per cent of the beef cattle of the United States are raised west of the Mississippi river.—Chicago Stock Yards Bulletin.

Steers Fed on Silage Do Well.

Something novel in fat steers was included in the receipts at the Chicago yards on May 26. They were silage-fed cattle from the Indiana Experiment Station averaging 1,354 pounds that went to a butcher at \$7.25. W. A. Cochel, the feeding experiment of the station, accompanied them to Chicago. They are the first silage-fed cattle from the Indiana station that have not been fed other roughage.

These cattle were fed corn silage, cottonseed-meal and shelled corn, and were very profitable. Results show that silage has a very definite place in relation to feeding cattle in combination with some nitrogenous concentrate. The steers were 2-year-old grade Angus, and were valued at \$4.55 when put in the feed lot last November. They were divided into six lots. Daily gains made by the six lots follow:

Lot 1, 2.27 pounds; lot 2, 2.33 pounds; lot 3, 2 pounds; lot 4, 2.58 pounds; lot 5, 2.33 pounds; lot 6, 1.89 pounds.

The necessary selling price of each lot follows:

Lot 1, \$6.68; lot 2, \$6.32; lot 3, 6; lot 4, \$6.26; lot 5, \$6.61; lot 6, 6.75.

As the entire six lots realized \$7.25 with two steers out at \$6.50 the profit is evidence. To reach definite conclusions the experiment will be repeated.

Too Many Cheap Stallions.

"It is a strange thing to me," said an experienced horseman in the Wallace Farmer office recently, "that with good draft geldings selling at \$150 to \$225 and top-notchers at figures considerably above this, the farmers of the corn belt are buying cheaper stallions than for some time past. Five or six years ago when good geldings could be bought at \$100 to \$150 the farmers of this section were paying \$1,500 to \$3,000 for good stallions and thinking nothing of it. Now they object vigorously to paying more than \$1,000 to \$1,200 for stallions, although they are getting for their geldings 50 per cent more than they were a few years back."

"Do you mean that you think the stallions in use in Iowa and the adjoining states at the present time are inferior in quality to the stallions used five or six years ago?" we asked.

"That is exactly what I mean. I do not believe the stallions in use at the present day will begin to rank in quality with those used six years ago. The trouble is a lot of folks have got the matter of weight firmly fixed in their minds but they have lost sight of the necessity of quality with that weight. Some of the importers have seen this coming and have been buying their horses abroad with the demand at home in view. That is, they have been picking big horses without much quality and paying cheap prices for them. They can sell such horses here at \$1,000 and make some money out of them. It is not a satisfactory business to the importer, and you will notice that some of our old importers have not been doing a very heavy business during the last two or three years. The average importer likes to handle a good horse. He would much rather handle a good horse than a poor one; there is more satisfaction to him in it. But if the farmer will not buy a good horse and pay the price necessary to get him the importer must go out of business or furnish him with poor horses, and at cor-

POTASH

Lodged wheat is dead loss because you can't harvest it—you can't thresh it—you can't sell it.

If your wheat is lodged resolve that next year you will get straw strong enough to bear the heaviest wheat your land can produce.

That means **Potash**. It fills out the grain and makes a sturdy, elastic stalk for the grain to ripen on—keeps it standing for the harvester.

Potash Pays

Unless your wheat fertilizer is 2-8-6, it's too low in Potash. Two pounds of Muriate of Potash to each 100 pounds of fertilizer increases the Potash total one per cent.

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will protect you, your family and your property from damage by lightning. We know they will protect you, for they have been on the market long enough to prove it.

The best rod on earth will not protect you unless it is properly erected, and you should select the man who erects the rods on your buildings with as much care as you do the rod he puts up.

Prof. Dodd devotes his time to the scientific study of lightning, and instructing our dealers and teaching them how

to properly put up our rods. Our agent's certificate is your best protection.

We were the first Lightning Rod manufacturers to sell our rods through the dealers, so we had the first choice and picked out the best and most reliable dealers to handle our rods. We teach each and every one of them how to properly erect the D. & S. Rods, and then guarantee the job when they finish it. Our guarantee is legal and fully backed by us. Not only that, but when you deal with our agent, we guarantee you a square deal.

We mean what we say. We guarantee the job our agent does for you, and we guarantee that he will deal honestly and fairly with you.

Remember! Ours are the Standard Lightning Rods. Guaranteed absolutely with a Legally Binding Guarantee by a firm financially able to make good all its claims.

For your protection we print our Trade-Mark on every spool of our rods and furnish every agent with an agent's certificate.

There are countless imitations, but we believe there are none so good as the genuine Dodd & Struthers Rod, and we want to tell you the advantage of our rod and system of rodding before you make your purchase. Write and tell us how many buildings you have and the size of each one and we will tell you how much it will cost to rod them with our Standard Rod. Lightning storms are frequent. Don't take a chance. Write today.

DODD & STRUTHERS, DES MOINES, IOWA
Makers of Lightning Rods That Keep Out the Lightning

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Interest Paid on Time Deposits and on Savings Accounts

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

COME AND GET ACQUAINTED.

responsingly lower prices. And one of the worst things about it is that a lot of the fillies from these inferior horses are being kept for breeding purposes and an injury is thus being worked to the horse breeding industry of the West which it will take twenty years to overcome. With land at \$75 to \$150 an acre, with high priced feeds, and with such prices as we are now getting for good geldings, it does seem foolish on the part of the farmer to patronize cheap stallions. With the

present conditions in the horse business it will certainly pay him to follow the motto "The best is none too good."

Silberman Brothers, wool commission merchants, Chicago, in their July circular quote Kansas, Nebraska and Dakota wools as follows:

Fine.....	20c to 22c
Fine med. or ½ blood.....	23c to 25c
Med. or ¾ & ¾ blood.....	26c to 28c
Coarse.....	20c to 22c

Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or Blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circular.

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CURE YOUR HORSE WHILE HE WORKS

No need for him to be idle. We guarantee the cure of Collar and Saddle Galls under the harness while the horse works or money refunded.

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for Bruises, Cuts, Rope Burns, Mud Sores, Scratches, Grease Heel or any wound on horses or cattle. Excellent for Mange and Sore Feet. At all Dealers. Sample Free and Bickmore's Horse Book if you'll send 6c to cover packing and postage.

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DEATH TO HEAVES

Newton's Distemper Cure Guaranteed or Money Back. \$1.00 per can, at dealers, or Express Paid. 16 Yrs' Sale. THE NEWTON REMEDY CO. Toledo, Ohio.

Sale of Wash Suits for \$3.25

If you send your order in at once you can buy a stylish \$6.50 Linenette suit for \$3.25. Long coat with edge of wide lace insertion, three bands of insertion down full length of back, two at front. Sleeves lace trimmed, one band of insertion on skirt. These suits in white, linen color, pink, or blue.

Send orders at once before stock is exhausted. Return suit for refund if not satisfactory.

Kansas Mail Order Service
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KANSAS FARMER

EDITORIAL



SOME POINTS IN EDUCATION.

To each boy and girl the period of youth comes but once. Its opportunities, its pleasures, its experiences, its character-building, tell upon all the future. In the scheme of some of the wiser socialists it is proposed that all of the years under 21 be devoted to development, recreation and education. There are a few educated persons whose opportunities came after the period of childhood and youth had passed, but the fundamentals of the education of those who are to be future leaders will generally be acquired during the period suggested by the socialists.

That efficiency is greatly promoted by education need not now be argued. That manhood and womanhood are improved by education is not a subject of controversy. The question now is, what kind of education and how much? The question of how much is answered variously. With the majority, the common school course measures it. With some a high school course is added. A few continue the work into college or university. An occasional one adds post graduate study to that of the regular course at college.

In cities like Topeka the common or grade school work occupies the attention of the child for about nine months each year for eight years. If he begin at seven, have uninterrupted good health, study diligently, and be bright, he may complete the common school work at fifteen. The high school course requires four years. The majority of those who complete a high school course are above nineteen at the date of receiving their diplomas. Most college and university courses are arranged to begin where the high school course stops. Four years is the standard length of the college or university course. So great is the number of studies now considered important that many courses have been arranged with much of the selection left to the student. No one is expected to pursue all studies offered. To do so would in some institutions require not four but more than a hundred years. Full preparation for entering a profession is presumed to require two to four years study in addition to that of the common school, the high school and the college. The tendency of the greater professional schools is to extend the minimum post-graduate work to four years.

The modern scheme of education may be summarized thus: Common school, eight years; high school, four years; college, four years; professional school, four years; total, 20 years.

This exceeds the socialists' demand. That all of these years and more may be devoted to education to the betterment of the preparation for a life work is not questioned. But the fact that the necessity, or the desire, to go to self-support prevents many strong young men from devoting so much time to preliminary study has caused many of the leading universities to include professional studies among the optionals of the four-years graduate course, thus giving the student a fairly good working educational equipment in 16 years.

The fact that many of the eminent men of the past have had limited opportunities for education at school, demonstrating as it does the possibility of acquiring working power by assiduous application even without the advantages now offered, does not lessen the desirability of the best education one can obtain.

But it must be conceded that to the majority of boys and girls on the farm the present development of the school system of the country fails to provide opportunity for the preparation required for admission to the freshman year of the average college or university. Whether future development of consolidated country schools and of county high schools will fully remedy this condition is aside from this discussion which is concerned with the case of the boy and girl now living.

It is fortunate under these conditions that the Agricultural College continues the requirements for admission low enough to take the country boys and girls as they come from the district schools and that many other colleges provide for sub-freshman classes. Possibly the knowledge gained on the farm may possess more edu-

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OUR GUARANTEE.—It is our belief that all advertisements in this paper are from reliable persons or firms. To show that we are in earnest in protecting our subscribers we guarantee the trustworthiness of our adver-

isational value than the schools have been inclined to credit. When a city boy of sixteen goes for the first time to a farm he finds himself lacking very much in knowledge which the farm boy reckons as nothing because he doesn't remember when he learned it. But this knowledge, and the country boy's habits of application together with his good health are powers ready for use. Thus it is that while the farm boy has not been permitted to spend the years in school which count in preparation for entrance to most college freshman classes he has acquired education of a kind that the world of today very much needs.

The frequency with which the farm-bred boys and girls distance competitors in the race for eminence in industry and in science is an endorsement of the policy of allowing their knowledge of things to take the place of a part of the knowledge of books as qualification for entrance to at least some of the institutions of higher education.

The question of education is always one of the most important in the family. Recognition of its importance to the community is manifested in the alacrity with which provision at public expense is made for schools of all grades. The practical problems of sparing the time and of meeting the expense determine in many cases the extent to which educational preparation for future usefulness in the world's work shall be carried. The considerations herein contained are written in the hope that they may help in developing plans that may be carried out. In further study of this important matter it will be well to write to several educational institutions for information of the opportunities offered. A careful study of the literature that will be sent will be helpful.

It will be found that many of the best students "work their way" or a large part of it, through college. The records that have been made by self-helpers compared with the records made by those who "had plenty of money" is almost entirely in favor of the former.

Every young man or young woman who gets a good education, even though at the cost of strenuous effort and under self-denial, will be glad in the years to come that he had the necessary amount of determination. The parents of such will generally rejoice in the unfolding of powers which they alone had discovered, and will count the sacrifices which the education cost as nothing compared with the results.

THE BOYS' CORN CONTEST.

In both direct and ultimate benefits to the active member, as well as to the community in which he lives, there are few things in modern rural life that exceed in value the boys' corn contest. The increase in cash received, the spur of the contest, the interest in present duty and hope of

tisers under the following conditions: We will make good the loss of anyapid up subscriber who suffers by dealing with any fraudulent advertiser in our columns, provided complaint is made to us within thirty days after the transaction. This guarantee means just what it says. It does not mean that we guarantee to settle all trifling disputes between a subscriber and an advertiser, though we offer our good offices to this end. We do, however, protect you from fraud under the above conditions. In writing to advertisers be sure always to say: "I saw your advertisement in Kansas Farmer."

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winning the prize are among the direct benefits, while the knowledge of improved methods, the incentive which removes the drudgery, the influence of the necessarily careful methods upon the character of the boy and the influence he exerts upon his fellows are some of the ultimate results which, when summed up, will go a very long way towards solving the old question of why the boys leave the farm.

The boys' corn contest is generic and is used only to illustrate. Stock growing and stock judging contests are of equal value to the boy and his neighbors, as would be other contests along similar lines and for like objects.

The greatest field of human endeavor that is open to the boy of today is to be found in advanced agriculture. The American method of wearing out a farm in one lifetime and compelling the next generation to move to a new state will soon be impossible because of lack of virgin land. There are but few farms that last, unimpaired, from prairie sod to grandsons and almost none that wear a century.

When a farm has been damaged or destroyed by the reckless methods of our one crop system it is a tedious and expensive matter to reclaim it and the country is now calling for men who can do this reclaiming but, more loudly, for men who know better than to make reclamation necessary. The organization of a boys' corn contest or wheat contest or stock contest in any community is a long step in the right direction. From it should grow other things that are of equal value to both the boy and his neighbors. Such an organization, however, implies an organizer—one who will give time, zeal, energy and ability to the work and compel success. Half-hearted attempts are sure to be abortive and worse than useless and for this reason, if for none other, the man who successfully organizes and conducts a boys' contest has at least one thing in life of which to be proud.

Shawnee county has such a man in the person of Hon. Bradford Miller, who declined reelection as president of the Kansas Good Roads' Association and, later, of the Shawnee Alfalfa Club in order that he might devote his strength to the interests of the 300 boys who have entered the local corn contest in which they will compete for the 14 cash prizes secured by Mr. Miller from the State Wide Fair, the prizes at the State Corn Contest to be held at Manhattan this winter and those offered by the National Corn Show at Omaha. Mr. Miller's efforts should be seconded by every farmer who has the best interests of his boy at heart and by every business man who has his own business before him. His counterpart ought to step to the front in every county in Kansas.

TILLAGE VS. SOD-MULCH IN ORCHARD MANAGEMENT.

The comparative advantages of orchard tillage and sod-mulch in apple growing has been the subject of experiment for five years under direction of the New York Experiment Station at Geneva. An orchard was divided into two nearly equal parts one of which was seeded down on October 15, 1903, to a mixture of orchard grass and blue grass, and in the spring of 1904 a further seeding was made of these two grasses with the addition of a little timothy. The orchard grass soon took the lead and was practically the only grass to be considered in the experiment. The grass was cut each year in May or June, and in three of the five seasons was cut again in July or August. It was allowed to lie where it fell.

The other half of the orchard was plowed each year during the last week in May or early in June, rolled, harrowed four to six times and sown to clover or oats about the first of August.

The diameters of the trees at the beginning of the experiment ranged from 12.4 to 14.7 inches. After five years the trees in sod had made an average gain of 1 inch; those under tillage 2.3 inches.

In annual growth of laterals the trees in sod averaged 3.4 inches; those under tillage 6.7 inches. In number of laterals per year the trees in sod averaged 1.9; those under cultivation, 4.4.

In yield of fruit for the first year the trees in sod produced 615.1 barrels; those under tillage 591.9 barrels, showing an advantage of 23.2 barrels in favor of the sod-mulch method. In proportions of first class, second class and culls there was no notable difference for the first year.

For every year after the first the advantage was with the tilled trees so that for the five years the tilled half of the orchard outyielded the untitled half by 889.7 barrels, an average of 177.9 barrels for each year. The average yield for the tilled orchard was 109.2 barrels per acre, for the untitled 72.9 barrels per acre. The average difference of 36.3 barrels per acre ought to pay for a good deal of tillage.

The expense of the two methods was kept. The total expense for the five years was:

For the sod-mulched half—cutting grass, \$40.62; harvesting, \$717.94; total expense, \$1,166.06; net income, \$1,552.03.

For the tilled half—cultivation, \$196.96; harvesting, \$1,102.34; total expense, \$1,714.13; net income, \$2,457.08.

It is estimated that the trimming cost about \$8 more for the tilled trees. There were 118 of the untitled and 121 of the tilled trees so that the difference of about \$900 in favor of the tilled trees is rather too strong a showing on that side. But the net income per tree was \$20.30 for the tilled and \$13.15 for the sod-mulched.

The figures show that every dollar extra that was spent on the tillage plat came back and brought with it \$1.74 of profits.

POWDERED MILK.

Accounts have recently appeared of a new method through which milk is said to be reduced to a dry powder by removing the water without heating. It is stated that when water is again added in proper amount milk unchanged in taste or other qualities results. The powder may be kept as long as desired and used at convenience. The restored milk may be treated in every respect as fresh milk is treated. Cream raises, the milk sours and spoils and performs in every respect just like ordinary milk.

The process of reducing the milk to powder is said to consist of passing through it perfectly dry, sterilized air which carries away the moisture. The process and the machinery by which it is affected are kept secret. How soon producers and consumers in general will enjoy its advantages can not be guessed.

Milk is one of the most perishable of the products of the farm. It is heavy. Partly on these accounts the difference between the price paid by the consumers in the cities and that received by the producers on the farms is very great. Dairyman who

supply the New York market complain bitterly of low prices. That there is small profit for them, especially while feeds are high, may easily be figured from the following paragraph in the New York Produce Review and American Creamery:

"At the last meeting of the Consolidated Milk Exchange the milk situation was discussed pretty fully and it was decided that some advance in prices would be necessary to get sufficient supplies here to meet the increased demands resulting from warmer weather. It was also urged that high prices of cheese and butter were against free shipments of milk. An advance of $\frac{1}{2}$ c was made, therefore, which brought the price up to $2\frac{1}{4}$ c net to shippers in the 26c freight zone. This makes the cost delivered in New York equal to \$1.41 per 40-quart can. The change went into effect July 1."

No statement of the retail price of milk in New York is given, but here in Topeka, where the lowering of the cows may almost be heard by the consumer, the price is \$1 for 14 quarts. The difference covering carriage, profits and risks is a little less than $4\frac{1}{2}$ cents per quart.

If the powdered milk process can be made practicable for the dairyman a considerable part of this difference ought to be saved and divided between the producer and the consumer.

THE NEW PRESIDENT OF THE KANSAS STATE AGRICULTURAL COLLEGE.

Good fortune has come to Kansas in the acceptance of the presidency of the State Agricultural College by Henry J. Waters, dean of the College of Agriculture, Missouri State University. Mr. Waters is a typical product of the forward movement in education and in experimentation which had its beginning when Lincoln signed the Morrill act providing for the establishment of agricultural colleges. This and subsequent acts of

Congress providing for experiment stations and for further development along lines radically different from those followed by the older institutions of this and other countries found a singular deficiency of educated men possessed of adequate appreciation, or even knowledge, of the demands to be made upon those who should direct the advance.

Conspicuous among the generation of men who have recognized the needs of the present, not only for teaching what the young man or the young woman needs to know on account of its applicability in his or her life work, but have recognized also the opportunity and the need of original investigation for the development of new and more complete knowledge than is yet possessed of farming and its multifarious problems, stands the new president of the Kansas State Agricultural College.

The energy, skill, judgment, industry and success with which Mr. Waters has addressed himself to and has developed the work in Missouri and his success in bringing together in that state a faculty and an experiment station staff of virile men who work in harmony and produce results without fear of the antiquated charge of being utilitarians, are ample assurance of proper handling of the greater opportunities at the great institution at Manhattan.

SOW ALFALFA AUGUST 16, 1909.

For success in securing a stand of alfalfa the ground should be plowed and harrowed on the same day, as early as possible. It should be harrowed as soon after every rain as the condition of the soil will admit of proper working. It should be given enough further cultivation to have it free from weeds and grass at the middle of August. If all has been properly done, Monday, August 16, 1909, should find the soil in good condition for seeding even if there shall have been no rain for a good while. If on August 16 the soil two inches below the surface is moist enough to be formed into a ball in the hands, sow the best alfalfa seed that can be obtained. If on August 16 the soil is too dry to make a ball as above described, wait for a rain, keep up the cultivation as before, and sow as soon as the proper condition of moisture is found.

On good land capable of producing good corn in Kansas this ought to secure a good stand of alfalfa. A dressing of manure, put on preferably with the spreader, will be appreciated by the young alfalfa. If the land is at all sour a dressing of lime or of crushed limestone will do good.

Most Kansas soils provide the alfalfa bacteria spontaneously. Where these are not present they must be supplied by bringing soil from an old alfalfa field or the prosperity of the newly sown alfalfa will be of short duration.

THE EDUCATIONAL AND SOCIAL VALUE OF THE STATE FAIR AS SEEN BY A RELIGIOUS NEWSPAPER.

"After all, we believe all good people should be interested in the State Fair," said the Christian Union just after the Iowa State Fair last fall. "It is educational. It brings out the best that is in mineral, vegetable and animal kingdom, as well as the handiwork of man. It has social features that are not to be despised. Friends have clasped each other's hand for the first time in years during the past week. Neighbors have met away from home and become better acquainted. Old grudges have been buried deeper and the hearts of Iowa's hosts are beating more in unison because of the experiences of the past week. Yes, instead of staying at home, grumbling about how bad the world is, every Christian should get in touch with the world and try to make it better."

Editor M. V. Carroll of the Ruralist, Sedalia, Mo., speaks about the election of Dean Waters to the Kansas State Agricultural presidency as follows: "In common with Missouri's farmers, The Ruralist regrets to see Professor Waters leave this state. Kansas is to be congratulated on having secured his services and, as we must lose him, we could not select for him a more congenial or desirable habitat than the Sunflower state. Here's wishing him unbounded success in his new location."

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DO YOU WANT A HOME?—WE HAVE 100 of the best farms in southeastern Kansas on the easiest terms of any land sold in the State. Send for copy of the Southeastern Kansas Homeseeker, the best monthly land paper published—it is free. Address the Allen County Investment Co., Longton, Kan.

CHEAPEST WAY TO BUY GOOD LAND. Subscribe for farms in irrigable district of Southwest Texas, 10 to 320 acres for \$250, \$30 cash, 22 monthly \$10 notes without interest. Reliable agents wanted everywhere; \$20 commission per share. Get illustrated booklets from German Colony Company, Austin, Tex.

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

FARMERS AND STOCKMEN—WE HAVE a number of irrigated farms and ranches in Routt county, Colorado, for sale at from \$10 to \$60 per acre. Unlimited free range for stock. This is the place for profitable stock raising in the entire West. Write for circular. Whitaker Bros., Steamboat Springs, Colo.

PUBLIC LAND OPENINGS WILL SOON take place. For booklet containing general information, the land laws and many beautiful scenes, send four cents in stamps. Dept. G, Northwestern Publicity Bureau, Rock Springs, Wyo.

LAWYERS.

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

MISCELLANEOUS.

CONKEY'S ROUP CURE—POULTRY SUP- plies of all kinds for sale. G. H. Harries, 210 W. 6th St., Topeka, Kan.

FOR SALE—EVERYTHING IN BEE supplies at lowest prices. Try my comb foundation. O. A. Kenne, Topeka, Kan.

WANTED—TO RENT A DAIRY FARM, everything furnished, by an experienced farmer with family. Can give best of references. 317 E. 9th, Hutchinson, Kan.

THE STRAY LIST

JULY 3.

J. A. Maxwell, Co. Clerk. Taken up by G. E. Wilkerson who resides at Washington, Washington county, Kansas, June 5, 1909, 3 red barrows, one year old, no marks except a piece torn from the left ear of one; value as appraised \$22.50. 1 red sow, one year old, no marks, value \$7.50; total value \$30.

JULY 3, 1909.

Guy G. Adams, County Clerk. Taken up on the 1st day of March 1909, by Sam Sprague, Tribune tp., Greeley county, P. O. Tribune, 1 mare, 2 yrs. old, black weight 900 pounds, spot in forehead, snip on nose, valued \$75.

JULY 3, 1909.

J. B. Spurlock, County Clerk. Taken up by A. C. Castleberry, Liberty tp., Geary county, June 13, 1909, 1 gray horse, 14 yrs. old, weight about 1,200 lbs., 1 bay mare 11 yrs. old, weight about 1,000 lbs. Mare blind in right eye.

Grain Grading Notice.

Notice is hereby given that the "Grain Grading Commission" of the State of Kansas will meet at the office of the Governor on the 27th day of July, 1909, to establish the grade of all kinds of grain bought or handled in the state and which shall be known as "Kansas Grades." All persons, grain dealers and millers are invited to meet with said commission on said 27th day of July, 1909, to consult and council with reference to said grades.

July 1st, 1909.

**G. W. GLICK,
J. G. MAXWELL,
THOMAS PAGE,**
Commissioners.

THE CROPS OFFICIALLY.

The Crop Reporting Board of the Bureau of Statistics of the United States Department of Agriculture estimates, from the reports of the correspondents and agents of the Bureau, as follows:

The preliminary estimate of the area of corn planted is 109,006,000 acres, an increase of 7,218,000 acres (7.1 per cent) as compared with the final estimate of last year's acreage.

The average condition of the corn crop on July 1 was 89.3, as compared with 82.8 on July 1, 1908, 80.2 on July 1, 1907, and 84.8, the ten-year average on July 1.

Comparisons for important corn states follow:

	Acreage, 1909.	Cond't'n July 1
	Per cent of 1908.	10-year average.
Illinois	108	94 83 86
Iowa	103	86 83 86
Texas	105	82 83 76
Nebraska	104	81 84 86
Missouri	108	81 74 85
Kansas	110	81 73 85
Oklahoma	120	94 74 88
Indiana	102	83 83 85
Georgia	104	90 88 86
Ohio	108	83 84 86
Kentucky	106	89 83 87
Tennessee	102	80 87 86
Alabama	106	77 86 85
N. Carolina	104	83 92 88
Arkansas	108	91 81 83
Mississippi	108	72 86 82
S. Carolina	107	87 89 84
S. Dakota	106	93 84 85
Virginia	106	90 95 90
Michigan	104	86 86 81
Louisiana	130	91 87 80
Minnesota	104	91 70 80
Wisconsin	104	89 87 83
Pennsylvania	104	92 89 86
United States	107.1	89.3 82.8 84.8

The average condition of winter wheat on July 1, or when harvested, was 82.4, as compared with 80.7 last month, 80.6 at harvest, 1908, 78.3 in 1907, and 79.6, the average at time of harvest for the past ten years.

Comparisons for important winter wheat states follow:

	Per cent of U.S. acreage in state.	At harvest, 1909.	Condition.	At harvest, 1908.	10-year average at harvest.
			June 1, 1909.		
Kansas	21.1	76	72	71	75
Indiana	8.0	84	82	88	73
Nebraska	7.8	85	78	81	85
Missouri	7.0	85	82	74	82
Illinois	6.9	87	81	80	77
Pennsylvania	5.4	91	91	92	86
Ohio	5.2	78	76	83	75
Oklahoma	4.2	77	75	70	70
California	3.1	77	75	70	70
Tennessee	2.8	85	88	85	78
Virginia	2.8	89	93	88	81
Maryland	2.7	85	93	88	86
Michigan	2.7	88	86	92	71
Texas	2.4	56	56	70	73
Kentucky	2.4	83	88	84	79
Washington	2.4	90	90	79	91
N. Carolina	2.1	89	91	87	80
Oregon	1.9	80	87	86	88
New York	1.5	88	90	87	82
United States	100.0	84.4	80.7	80.6	79.6

Comparisons for important spring wheat states follow:

	Per cent of U.S. acreage in state.	July 1, 1909.	Condition.	June 1, 1909.	July 1, 1908.	10-year average July 1.
North Dakota	34.6	95	98	93	85	
Minnesota	31.2	92	96	90	86	
South Dakota	17.4	94	94	95	89	
Washington	4.9	90	93	85	90	
United States	100.0	92.7	95.2	89.4	87.0	

What the Disk Drill has done for the Farmer.

It may not be known to the users of grain drills in general, but nevertheless it is true, that the disk grain drill has practically revolutionized the method of sowing small grains. Thousands upon thousands of acres, where it would be absolutely impossible to put in grain by the employment of old style grain drills, have been transformed into golden-hued grain fields by the invention of the disk drill. Not only is this true, but the disk drill has lessened the labor for both man and beast. It has also enabled the farmer to reseed his worn out meadows and run down pastures. The farmer nowadays who has a Kentucky Disk Drill need not worry if his fields are trashy and the ground covered with pea vines, crab grass and trash. He no longer worried if his fields are muddy, or his ground is hard and difficult to sow. He knows full well that his Kentucky Drill will go through it all, put the seed in the ground and cover it well. The Kentucky Drill is made in a wide range of styles and sizes—plain and fertilizer—and is sold under an iron-clad warranty that protects every purchaser. You can get in the Kentucky line a drill that will do your work, right, no matter what state or territory you live in. Send for the Kentucky Drill catalogue, read about Kentucky drills and then call on your retail implement dealer and insist on seeing the Kentucky Drill. Should you want any special information, ask for it, and we will be pleased to send it to you.

THE AMERICAN SEEDING-MACHINE CO (INCORPORATED) SPRINGFIELD, OHIO

The average condition on July 1 of spring and winter wheat combined was 86.5, against 86.5 last month, 83.9 on July 1, 1908, 81.6 July 1, 1907, and 82.5, the ten-year average.

The amount of wheat remaining on farms is estimated at 2.3 per cent of last year's crop, or about 15,062,000 bushels, as compared with 33,797,000 on July 1, 1908, and 43,608,000, the average amount on farms on July 1 for the past ten years.

The average condition of the oats crop on July 1 was 88.3, as compared with 88.7 last month, 85.7 July 1, 1908, 81 July 1, 1907, and 86.8, the ten-year average on July 1.

The acreage of white potatoes is estimated at 3,452,000 acres, or 195,000 acres (6 per cent) more than last year. The condition of the crop on July 1 was 93, as compared with 89.6 on July 1, 1908, 90.2 on July 1, 1907, and 91, the ten-year average on July 1.

The average condition of the hay crop on July 1 was 87.8, as compared with 87.6 last month, 92.6 on July 1, 1908, and approximately 82 on July 1, 1907. The condition of timothy on July 1 was 87.1, as compared with 90.2 on July 1, 1908, 82.2 on July 1, 1907, and 85.1, the ten-year average on July 1. The condition of clover on July 1 was 83.8, as compared with 95.5 on July 1, 1908, 76.4 on July 1, 1907, and 83.8, the ten-year average on July 1.

The condition of the apple crop on July 1 was 54.6, as compared with 61.4 last month, 57.6 on July 1, 1908, and 62.3, the ten-year average on July 1.

FOR IMMEDIATE SALE

This hotel with complete furnishings, electric light, steam heat and city water, acre of ground, shade trees and beautiful lawn. Located in town of 3,000, a nice home with splendid school advantages. Building in excellent repair. Town is growing and has two railroads. A money maker for the right party. Good reason for selling. The last time this ad will appear. Address

LOCK BOX 536,
Council Grove, Kansas.

HOME IN MANHATTAN

or Lands anywhere in Kansas. See Manhattan Realty Co., HULL & MOORE, Manhattan, Kan. You should buy this summer. Write us now.



Kansas State Agricultural College

Bargains in Farms, Ranches & City Property

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

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

If you are thinking of locating near a school town, why not try Emporia, where they have colleges galore and where the land will make you some money while you enjoy a comfortable living? Write for list.
H. B. GILES,
Emporia, Kansas.

COMPLETE DESCRIPTION
Texas Panhandle, covers 25 years, \$2 pp., complete birdseye view and wall map Amarillo, 15,000 population, in heart of Panhandle, sent prepaid for 35c; clubs of four, \$1. Order today—edition limited. Mirror Publishing Co., Amarillo, Texas.

320 ACRES of extra good land, house of 14 rooms, a fine barn, and other good improvements, 2½ miles to town. One of Brown county's best. Enquire of
R. A. HENRY,
The Real Estate Man,
Hiawatha, Kansas.

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

LYON COUNTY LANDS.
Choice half section, well improved, school, mail, town, 8 miles Emporia. \$60. Photos sent. A choice \$0, \$5,000. 160 near town, \$50. Send for list.
H. B. GILES,
Emporia, Kansas.

THE BEST TOWN TO LIVE IN.
If you would like to live in the most beautiful city in the West, with unsurpassed educational, business and religious advantages, in a city clean, progressive, where real estate values are low, but steadily advancing, where living expenses are reasonable, a city with natural gas at lowest prices, address the Secretary of the Commercial Club, Topeka, Kan.

ARKANSAS.—"Don't you wish you had bought when you were here before?" That is what they all say; and then, buy before it doubles up again. What have you got that half equals it? You can't find it in America. Think of the money bags being hauled in by a single farmer. Thrashing and hauling \$1,000 a day and more—getting the cash the same day. We have other propositions that will beat your best; besides, the best climate, best roads, best water and fine people, and anything else you want. I own the cheapest land on Grand Prairie and can make you terms—won't price you out. Also, fine timber lands. **F. W. HOUSTIN**, Stuttgart, Ark.

LOOK AT THIS.
No. 503.—Here is a ranch of 2,960 acres, that we can recommend as good a cattle ranch as there is in the country; all under fence, plenty of water, 600 acres fine bottom land, suitable to grow alfalfa; the improvements, stone house, barn 50x35, stone shed 160 feet long, and all other necessary improvements that are required on a ranch of this kind. The survey of the new railroad running from Garden City to Stockton, runs near or through this place. Rural telephone and post office on the place. Price \$12.50 per acre, part time will be given.
TEED & ORBISON,
Jetmore, Kansas.

SOLOMON VALLEY LAND.
We have farms for sale in Ottawa and adjoining counties, good upland improved, at from \$25 to \$60 per acre. Bottom land improved at from \$60 to \$125 per acre. You have not seen the best till you see the Solomon Valley.
A. E. ROBINSON LAND CO.,
Minneapolis, Kansas.

SMITH CO. KANSAS STOCK FARM.
240 a. all ready to move on to and make money. Mostly in cultivation, 25 acres alfalfa part in hog pasture, fair house, good barn, other improvements fair, good shallow water, shade and fruit trees, all fenced, land is rolling and some rough but makes good pasture; an ideal stock farm, close to school and church. North of town 11½. Good roads; investigate now. Price \$35 per acre.
CARL G. ANDERSON,
Athol, Kansas.

BARGAINS IN KANSAS LANDS.
400 acres in Morris county, 2 sets of improvements, \$50 per acre. 240 acres one mile from Herington, well improved, \$75 per acre. City property in Herington to exchange for land. Farms in Kiowa, Gove, Ford, Rush and Ness counties at various prices.
ROBT. SUTHERLAND,
Herington, Kansas.

FINE CORN, ALFALFA AND FRUIT FARM.
240 acres, 50 acres alfalfa, 40 acres pasture, 25 acres good 6 year old orchard, all kinds of fine fruit, balance in high state cultivation. Improved, one 9 and one 2 room house, barn for 12 horses granary and outhouse, good well and windmill, fenced and cross fenced. Price \$100 per acre.
THE NELSON REAL ESTATE & IMG. CO.,
137 N. Main St.,
Wichita, Kan.

RIGHT AT TOWN.
A good level wheat and corn farm; there is no better; 280 acres in cultivation, 40 acres in pasture, 5 roomed house, 600 bushel granary, stable for 10 horses, well, windmill, tank, etc., only one-half mile from Spearville. For a short time only \$40 per acre; one-half cash, balance can run 4 years at 6 per cent. If you want something good don't miss this. Send for list. Address
G. F. WEYAND,
Spearville, Kansas.

400 ACRES meadow land nicely located, well fenced with 4 wires, all lies in a body, and can be used for pasture. Within 40 rods of switch on Mo Pac. R. R. Could be divided into a nice farm and is a bargain at \$30 per acre. **C. R. CANTRALL**, Fredonia, Kan.

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

McPHERSON COUNTY.
80 acres, 3½ miles Salina all in cultivation, \$4,500.
240 acres in Saline county, 80 in cultivation, all fenced, fair improvements, ½ mile school and church. \$25 per acre.
WM. KINDT, Marquette, Kan.

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

BLACK & BLACK.
The real real estate firm of Holton, Kan. Come in and see us if you wish to either buy or sell a farm or city property. We have the best bargains that are for sale. 240 acres, best dairy farm in Eastern Kansas.

GOOD HOME CHEAP.—160 acres, 130 in cultivation, all fenced, 3 room house, barn, cow shed, poultry house and well and windmill, only 4 miles to R. R. where an elevator will be built this summer. Will take a small cash payment and give 5 years on balance. Price \$2,500. **KIRBERG & MILLER**, Ness City, Ness Co., Kan.

MARSHALL COUNTY BARGAINS.
Large list of improved farms for sale at \$40 to \$100 per acre. 200 trading propositions. Can match you on anything. Write for complete list.
TROSPER & BLACKNEY,
Frankfort, Kansas.

IRRIGATED FARMS FOR SALE.
In the famous Arkansas Valley of Colorado and the Pecos Valley of Texas, reasonable prices; good terms. If you want a money making investment or an ideal home write for further information.
J. F. CURRY, Lamar, Colo.

960 ACRES of good farm land in Chase county, Kan., close to market, well improved, 80 acres alfalfa, 200 acres in cultivation, balance meadow and pasture. Price \$25 per acre.
HALE & ENGLISH,
Dodge City, Kansas.

SCHUTTE & SHINEY, the Rush county Kan., real estate hustlers; 30 years in the same old place. Good farmers raised from 26 to 47½ bushels of wheat per acre here last season. We can sell this land at from \$20 to \$35 per acre. Good improved ranch land, ¼ good farm land, at \$15 per acre. Good bottom land not over 5 miles from market at \$25 to \$35 per acre. Well improved and running water, plenty of timber. See us, or write us at La Crosse, Kan.

FOR SALE.—320 acres of good wheat land in the famous wheat belt of Logan Co., Kan. 4 miles from Monument, and 3 miles from Page.
40 acres in cultivation.
Price \$12.50 per acre. Purchaser to assume R. R. contract for about \$1,700. This is a snap.
W. H. LINVILLE,
Beloit, Kansas.

A NESS COUNTY BARGAIN.—400 acres 11 miles from Ness City. 100 in cultivation, well fenced, good house, barn, well and windmill, 18 feet to water, all smooth, half mile to school. Price \$5,000. Reasonable terms. This is only one. Come and see.
LOHNE & CASON, Ness City, Kan.

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

FARMS FOR SALE in South Missouri. I have several good farms for sale on easy payments from \$5 to \$10 an acre. Please write me for full particulars.
WILLIAM BOWEN,
Houston, Missouri.

ATCHISON COUNTY FARM.—240 acres, 2 sets improvements, in fine condition, 1 mile school, 5½ miles from good town, land in high state cultivation, all but 20 acres plow land, the 20 acres are in timber and pasture. Price if taken soon \$16,000. **ADAMS BROS. & HAM**, Atchison, Kan.

ARE YOU LOOKING FOR A HOME?
No farmer should think of buying a home before seeing a copy of THE FARM AND REAL ESTATE JOURNAL. It contains the largest list of farm lands, city property and stocks of goods of any paper published west of Chicago. It reaches 50,000 readers each issue, 85 per cent of whom are farmers. Every one who has any property they wish to advertise will find this journal one of the best advertising mediums published. Advertising rates, 2c per word each insertion. Send 75c and we will mail you the Journal for one year, or for 10c in silver or stamps we will send it for two months on trial and stop it at the end of the two months unless you renew your subscription. **FARM AND REAL ESTATE JOURNAL**, Traer, Iowa.

Zimmerman Irrigated Lands
The cream of the Pecos Valley. Now open. All river front sections. The best alfalfa and fruit lands in America. Sold in 40-acre tracts, which will provide a permanent annual income of \$1,500 or more annually. Price \$40 per acre on 5 years' time, without interest or taxes, including perpetual water-right, 50 cents per acre as first payment. Address
THE HEATH COMPANY,
109 West Seventh St., Topeka, Kansas

Missouri Farms For Sale.

Everman has a farm for every man. Write for description and price list.
JOHN W. EVERMAN,
Gallatin, Mo.

ROOKS COUNTY LAND

One Hundred Farms for Sale.
Write for Lists.
C. H. DEWEY, -:- Stockton, Kan.

MORRIS AND NORTH LYON COUNTY
farms for sale. Write for list. We have a few bargains that will not be on the market long. Property for sale and trade.
F. L. JOHNSTON & CO.,
Dwight, Kansas

HOMES AND INVESTMENTS.
In reach of all in a growing locality. For information write,
WINN REALTY CO.,
Jetmore, Kansas.

Ford County, Kan. Lands.

For sale. Write for price list and crop reports. Cooperation solicited.
BROWN & VERNON,
Dodge City, Kansas.

HELLO FARMERS!

Have you read my list of GREENWOOD CO. FARMS? The best corn, alfalfa, clover, cattle and hog country in the west. Fine blue stem pastures. Write for list and prices to **P. D. STOUGHTON**, Madison, Kansas.

160 ACRES, 100 broke out, balance meadow and pasture, 6-room house, painted and in good condition, small barn, and sheds, good well and windmill, orchard for family use, smooth upland, 4 mi from Eskridge, ¼ to school, phone and mail route. This is one of the best farms in the county. Offered for a short time at \$50 per acre, good terms. 80 acres well improved, 60 under the plow, 4 miles to town, good orchard, \$40 per acre. **F. L. MCCOY**, Eskridge, Kan.

Corn and Alfalfa Farms for Sale

Dickinson Co., Kansas, 160 acres, 30 acres in alfalfa, 7-room house, large orchards, good improvements, price \$60 per acre. 320 acres, large 6-room house, 50 acres nice alfalfa, 60 acres meadow and pasture. Living water. All good corn and alfalfa land. Price \$60 per acre. 80 acres good improvements, nice orchard, large 4-room cottage. Corn and alfalfa land. Price \$6,000. This is a bargain. Write to **James Sheeran**, Solomon, Kan.

Reno Co. Farms.

320 acres, 12 miles from Hutchinson, Kan., all in cultivation, improved land, at \$21,000. Also 320 acres, 3 miles from Burrton, Kan., well improved, 200 acres in cultivation, balance pasture, at \$11,500.
CHARLES PETERSON,
Hutchinson, Kansas.

CAN YOU SEE AHEAD?

A 160 acre creek bottom farm, good alfalfa land, living water, new house, stable, well, pasture fenced, 8½ miles of Spearville. For quick sale only \$20 per acre. Send for big list of bargains. Address
G. F. WEYAND,
Spearville, Kansas.

Ozark Fruit Farm For Sale.

120 acres, 60 acres in cultivation, balance fine timber. Good 3 room house, 3 fine springs, fine apple orchard, large thrifty trees, other fruits. 1 mile from town. Good reason for selling. Price \$1,000. Write me for full particulars.
JOHN D. BAKER,
Ava, Douglas County, Missouri.

A BARGAIN IN LAND.

160 acres, 100 in cultivation, balance pasture all fenced and cross fenced, fair 6 room house, good barn, small orchard, can nearly all be cultivated, 5 miles from good town. Price \$8,500.

HULL & ZIEBELL,
Herington, Kansas.

Buy Western Kansas Land.

Should you want to buy any western Kansas land for speculation or for a home, don't fail to write me. I am selling land throughout all counties in western Kansas. I am myself farming extensively on the kind of land I offer for sale. I can sell you land that will make you money. Write me at once for prices. Address
EUGENE WILLIAMS,
Minneapolis, Kansas.

YOU CAN'T DUPLICATE THIS in Iowa or Illinois for twice the money. 205 a. farm, 45 a. detached, four miles from this city. The 160 all in blue grass pasture surpassing anything growing in Iowa or Illinois, 25 native hay and 20 corn on the 45 a. tract. Free gas for all purposes, house plumbed, excellent improvements, 9 room house, good cellar, large barn and other nice outbuildings, young orchard, splendid shade and lawn, abundance of good water. Another 160 one mile away good 8 room house, large barn, large orchard and small fruit, 35 a. timothy and clover. Balance under plow. All of the above for \$20,000, or second plow for \$8,000. This cannot be beat. Will carry large loan if necessary. Come and see. Will refund expenses if not as represented.
DONAHUE & WALLINGFORD, Mound Valley, Kan.

GREENWOOD COUNTY.

Fine 80 acres, 8 miles from Eureka, Kan., well improved. Price \$3,500.
G. K. JACKSON,
Eureka, Kansas.

\$100 REWARD for every farm you can find where we have sold above the owner's price. Call on us or send for new list of land. \$5 an acre up.
G. N. DAVIS & CO.,
Clamarron, Gray County, Kansas.

A REAL FARM BARGAIN.
160 acres 5 miles from Wakefield, Kan., (Clay Co.), 125 acres broke, 25 acres pasture, small house, barn, etc., good water. Price \$5,500.
J. C. WEAVER, Wakefield, Kan.

160 ACRES 2½ miles of Wilsey, phone and R. D. 70 acres cultivated, 40 meadow, 8 clover and alfalfa, 4-room house, barn for 8 horses, crib, poultry house, cellar, well and mill. Very level. \$50 per acre. **O. G. PIRTLE**, Wilsey, Kan.

320 ACRES CHOICE ROOKS COUNTY LAND, \$6,400.
Nearly all tillable. Some in cultivation. 5 miles from station.
STEVENS & RUBY,
Stockton, Kansas.

ELLIS COUNTY, KANSAS.
310 acre wheat and corn farm improved, 2½ miles from Hays City, convenient to State Normal School. 430 acres, improved, 7 miles from Hays City, school on the place, 25 acres alfalfa. Fine for dairying. Write me for prices and terms. **H. W. OSHANT**, Hays City, Kan.

640 acres of good wheat land, 8 miles north of Dodge City, 320 acres new sod ready for wheat. Price \$17.50 per acre, terms.

320 acres 7 miles north of Dodge City, 200 acres of good wheat land. Price \$10.
160 acres 9 miles south of Dodge City. Price \$15 per acre.
640 acres well improved, 5 miles south of Dodge City. Price \$39 per acre. This is a dandy. Cooperation solicited. Price list furnished upon application.
G. L. PAINTER & CO.,
Dodge City, Kansas.

Hodgeman County Lands.

Choice wheat and ranch lands. Write for price list and county map.
F. M. PETERSON,
Jetmore, Kansas.

EXCHANGE COLUMN.

If You Want

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

Good 320 acres in Marion Co., Kan., improved. \$8,500.
Fine 320 acres close to Marion, Kan., all grass. \$10,500.
Good 160 acres of wheat land, Lane Co., Kan. \$7.50 per acre.

I have good farm to trade for hardware stock and some lands to trade for merchandise. Write for my big list of bargains.

SOUTHWESTERN LAND CO.,
Geneseo, Kansas.

Trades Wanted

direct from owners of farms, ranches, income property, merchandise and hardware stocks, hotels, livery stocks. List your property with us, giving complete description. We can get what you want. No sale, no pay. Buyers wanted for good farms.
BERSIE REAL ESTATE AGENCY,
Eldorado, Kansas.

500 TRADES.

We have the largest list of farms, ranches, income property, merchandise, hardware, hotels, livery, etc., of any firm in the West. We print description of your property on our list and will get you a good honest trade of just what you want.
GRAHAM BROTHERS,
Eldorado, Kansas.

A Free Trip

Through Texas and Oklahoma. Go with us. Your carfare and expenses paid if we do not show you that we advertise facts. Talk facts. Hot air doesn't pay. Ten years of experience in locating homeseekers in Kansas, Texas and Oklahoma should enable us to find some good bargains. Our experience is your gain. Take notice—1,280 acres of improved valley land, deep, rich soil, sub-irrigated, alfalfa land (pure, soft water, no gyp), all in cultivation, nearly all in corn that will make 50 bushels per acre. This fine valley land is located in Oklahoma within 7 miles of a beautiful little city of 15,000 population; 1½ miles from a small town. Can be sold in any sized tracts to suit purchaser. Price, \$20 to \$30 per acre. We also have 3 sections of nice, smooth prairie land at \$15 per acre. Texas lands—improved farms, all level land, good soil, near town, \$20 to \$40 per acre. Unimproved prairie land, good location, from \$5 to \$20 per acre. Write or call on us for further information, which will be cheerfully given.—Newton & Eaton, Clay Center, Kan.

DAIRY



The "Elgin district," prominent in dairy affairs, comprises the entire state of Illinois, the three lower tiers of counties of the state of Wisconsin and the eastern tier of counties of the state of Iowa.

The richness of cream obtained from a hand separator will vary from day to day unless the following conditions are kept uniform: 1. The temperature of the milk. 2. The speed of the bowl. 3. The amount of water or skim-milk used to rinse out the bowl at the end of the run.

Here is evidence from a correspondent pointing toward the advantages of cutting hay, shedding fodder, etc.: "For several years we have been cutting all our hay and roughage and constantly find that it goes farther; in other words, that it takes less roughage to produce the same results. When anything interferes with the roughage cutting, it takes more of the uncultured to produce the same weight of milk per day. We weigh each cow's product night and morning, every day of the year."

J. H. Mercer, live stock sanitary commissioner for Kansas, has ordered that all dairy cattle brought into Kansas must be accompanied by a certificate from a veterinarian showing them free from tuberculosis. The Kansas state department has asked the Federal authorities to watch for cattle infected with tuberculosis and refuse to admit them into the state. This order if strictly enforced will save Kansas dairy farmers much money. The editor knows of dairy herds ruined by the introduction of tuberculosis by an infected bull. In these days get a veterinarian's certificate with all breeding cattle purchased.

If you feel disposed to guess at the per cent of fat contained in your cream you can approximate the test by noting the pounds of cream separated from a given weight of milk. If your milk tests 4.5 per cent fat and you get ten pounds of cream from 100 pounds of the milk, the test of the cream should be about 45 per cent fat; if from the same 100 pounds of milk you set the separator so that you obtain 20 pounds of cream, the cream will test about 22.5 per cent fat. By knowing the test of the milk and the pounds of cream obtained per 100 pounds of milk, you can assume the test of the cream with a fair degree of accuracy. It will be more satisfactory to buy a Babcock tester and determine the per cent of fat accurately. A Babcock tester will often prevent ill feeling towards the cream buyer.

The Separator Cream Screw.

A bulletin issued by the Dairy Division of the United States Department of Agriculture has this to say about the variation in the test of cream from the hand separator:

"The test varies with the speed of the machine, with the amount of milk run through the machine, and with the temperature of the milk. Every machine has some device for changing the test of the cream when these factors remain constant. It is done by an adjustable outlet either for cream or skim-milk. In most cases the adjustment is in the cream outlet. Directions for adjusting the cream screw are given in the books of instruction that go with the machines. There are some factors of separation not mentioned above which influence the percentage of fat in the cream. These factors are usually overcome by proper adjustment of the cream screw. In the summer, when the cows, on green, succulent pasture, are at their best and giving large quantities of milk, the milk is easy to skim.

The reverse is true in winter if the cows are wholly on dry feed. It is usually the case that milk tests higher in butter-fat in winter than in summer if most of the cows calved in the spring. As a rule, rich milk will give the richest cream, other things being equal. It will give no more butter-fat

than is contained in the milk, but the cream will be richer in butter-fat. Though the proportion of milk to cream may remain about the same, the cream will test richer in fat. It thus happens that in winter the cream screw has to be set so that it will make a larger quantity of cream from a given amount of milk than is customary or necessary in summer. The cream screw enables the operator to make allowance for changes of season and character of milk in order that a uniform cream may be obtained under all conditions, if so desired.

Bob-White, the Farmer's Friend.

It has taken science a long time to find out his greatest value—it is to the facts and figures of the Biological Survey that we are indebted for the knowledge that, while Bob-White is very seldom guilty of trespass, he is of constant value as a destroyer of weeds and injurious insects. From a careful examination of many hundreds of stomachs, it has been found that from early autumn until spring his food consists principally of vegetable matter, a portion of it being found by gleaning the fallen grain in fields where the harvest has been gathered; but side from this the main food of the quail during the autumn and winter consists of the seeds of noxious and troublesome weeds, these seeds, indeed, making up an average of one-half of his diet for the whole year.

Weeds.—Eighty-five different weeds have been found to contribute largely to the bird's menu, and his marvelous appetite is his most valuable asset. Crops and stomachs have been found which were crowded with rag-weed seeds to the number of 1,000, while another had eaten as many seeds of crab grass. A bird shot in October of 1902 at Pine Brook, in New Jersey, had eaten 5,000 seeds of green fox-tail grass, and one killed on Christmas day of 1901 at Kinsale, Va., had taken about 10,000 pig-weed seeds.

In relation to Bob-White's valuable services as a weed destroyer in only two states, the Government report says: "It is reasonable to suppose that in the states of Virginia and North Carolina from September 1 to April 30 there are four Bob-Whites to each square mile of land, or 354,820 in the two states. The crop of each bird holds half an ounce of seed and is filled twice a day. Since at each of the two daily meals, weed seeds constitute at least half the contents of the crop, or one-fourth of an ounce, a half-ounce daily is consumed by each bird. On this basis, the total consumption of weed seeds by Bob-Whites from September 1 to April 30 in Virginia and North Carolina amounts to 1,341 tons."

The Chinch Bug—After a winter in which a vegetarian diet has largely predominated, Bob-White has no desire for the sprouting grain, but in the early spring he is out on the war path hunting for animal food. Although in most climates he can find more or less insect food during every month in the year, his bright eyes are always on the lookout for the earliest comers among the insect pests, and during the spring, summer and autumn, his services in this direction are invaluable. The chinch bug leads the list of expensive insects with a tribute levied upon the American farmers which is estimated at \$100,000,000 per year. This destructive little pest invades the wheat fields in armies, but Bob-White leads his covey to the fray, and if he had warriors enough he could eradicate the foe, for the bugs winter in just such situations as are frequented by the quail, and the birds feast upon them whenever they are available.

In a letter to the Department of Agriculture, Mr. M. A. Page, of Garnett, Kan., says of the quail: "On opening the crop we found about two tablespoonfuls of chinch bug."

The grasshopper stands next in the amount of damage done, and \$90,000,000 per year is a conservative estimate of his tax upon this country, for he sometimes devastates whole states. But here, too, Bob-White is on duty

with the meadow larks, all of them feeding voraciously upon the invader.

The potato bug is another enemy which has cost the American farmer a vast amount of trouble and expense. In spite of large expenditures for poisons, this beetle still costs us about \$8,000,000 per year. Very few birds will touch the disgusting creatures, but the rose-breasted grosbeak and faithful Bob-White are always ready for them. The potato bug is not an occasional article of food, but when available is made a constant article of diet; one crop of a quail has been found to contain 100 of them; neither is this useful habit of protecting the potato vines confined to any one locality. Reports to the same effect have come to the Biological Survey from Ontario, New Jersey, Virginia, Maryland, Iowa, Nebraska, Kansas and Texas. In some cases of badly infested potato vines, Bob-Whites have been seen patrolling the rows and carefully picking off the bugs.

Bob-White also destroys the striped cucumber beetle which makes such havoc with cucumbers, squashes, etc. In fact, he has to his credit a list of fifty-seven different beetles, twenty-seven varieties of bugs, nine species of grasshoppers, locusts and their kindred, and thirteen sorts of caterpillars, besides ants, flies, wasps, spiders, etc. The crops and gizzards examined in the Government laboratories to ascertain the character and proportions of the quail's food, were collected from twenty-one states, besides Canada, District of Columbia and Mexico.

These birds are especially valuable during the nesting season, as the young feed almost entirely upon insects, twelve or more different species having been identified as the food of the downy chicks.

Man is Bob-White's worst enemy, but by shorter open seasons, with rigid game laws carefully enforced, it may be possible to enable the bird to gain ground even in localities where he is threatened with extinction. Some wise farmers, especially in Maryland and Virginia, are feeding their quail in cold weather. Wheat, buckwheat, corn, millet and other grains may be used for this purpose and should be scattered, if possible, under briars where they may have some protection from hawks.

Opportunities for Fifty Million People.

Regarding the importance of the work of the National Irrigation Congress, which will have its 17th session in Spokane, August 9-14, R. Insinger, chairman of the Board of Control, says:

The National reclamation act was passed in 1902. At that time there were in the government's name, in the 16 states affected, 600,000,000 acres of arid land, of which it was estimated possible to reclaim sufficient to support 50,000,000 people. By 1911 the Reclamation Service will have reclaimed nearly 2,000,000 acres, at an estimated cost of \$70,000,000. There are 40,000,000 acres of arid lands susceptible to reclamation by irrigation. The construction cost of the reclamation works is returned to the government from the sale of land, the proceeds to be again used in furthering irrigation development. Irrigation is making a garden spot and an empire of the "Great American Desert," and the work of the irrigation congress is yet in its infancy."

The National Good Roads Association May Meet in Kansas in 1910.

H. W. McAfee of Topeka, who attended the National Good Roads Association meeting at Baltimore, Md., as a delegate from Kansas, and who was instructed by the Topeka Commercial Club to invite that body to meet in this city in 1910 reports favorably. He says that the time and place of the annual meeting of the National Good Roads Association is al-

ways fixed by the executive committee and that three of the five members of this committee are in favor of meeting at Topeka next year. Mr. McAfee is president of the Kansas Good Roads Association.

For County Agricultural Exhibits.

The State Wide Fair offers \$100 cash premium for the best county exhibit of agricultural products. Shawnee county is barred. Do you want that hundred? If so write to R. T. Kreipe, secretary, Topeka, for a premium list which tells all about how.

"THE WORLD'S STANDARD"
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 185-167 BROADWAY, NEW YORK. 42 E. MADISON ST., CHICAGO.

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 1909 crop. No. 1 white, per case, 2 cans \$9.00; single 60-lb. can \$4.75. Comb honey prices upon application.
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 Save \$100 to \$500 on the grain you crib. Our books tell how. Your old cribs are O.K. use a "Little Giant" Elevator with, but write for this new big book. Sent free with our catalog. Gives complete working plans and specifications for building or remodeling most practical used cribs and graineries.

LITTLE GIANT
PORTABLE
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 Saves its price quickly in time, labor and money. No hand work. Drive right on wagon dump or jack, throw clutch, start horse-power or your engine, and grain is distributed evenly by conveyor at any height. All automatic and quick. Unloads 60 bu. in under five minutes. Investigate. Thousands in use. Write
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Only \$33.50
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 High Grade Separator—Direct
 Save \$25 to \$50 direct at my factory price—freight prepaid. Get the only Separator that runs in "Bath of Oil," like a \$5,000 automobile. This alone is worth \$50 extra, but costs you nothing extra.
90 Days'
Farm Test—Freight Prepaid
 Why pay \$85 to \$110 to dealers or agents who cannot sell you a separator equal to the Galloway—closest skim—eastest run—easiest cleaned—10-year guarantee. Send for BOOK FREE
W. M. GALLOWAY CO.
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\$50 TO \$300 SAVED
 We are manufacturers, not merchants. Save dealers' jobbers' and catalog house profit. I'll save you from \$50 to \$300 on my High Grade Standard Gasoline Engines from 2 to 22-H.P.—Price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.
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 Wm. Galloway, Pres.
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Write Us For Catalogue of the FAMOUS
Baker Plow and Threshing Engines
 They will develop more power on less fuel and water, than any other engine built.
 We Are Manufacturers of the
Prairie Queen Separator
 the HARD WHEAT SPECIAL. It will save a greater per cent of the grain than any other separator on the market today.
 We have a few more separators and engines, that we can deliver on a day's notice.
The Prairie Queen Mfg. Co.
 Newton, Kansas.

The Devon for Beef and Milk

BY L. P. Sisson, SECRETARY OF THE
AMERICAN DEVON ASSOCIATION.

There are not many Devons in the Middle West. In what is considered the corn belt the Shorthorns, Herefords, Black Polls and Angus have taken the lead. Why this is so we cannot understand. When we think what the Devon is capable of doing in the way of beef making in other parts of the country, the Devons will certainly do as well as the breeds above mentioned.

The Devon steer will make as much beef per acre of grass or bushel of grain fed as any other animal. This has been proved by Devons fed along with other breeds. Devon steers grow fast, are easy keepers, good rustlers and fatten at any age. They do not grow as large as the Shorthorns, Herefords or Polled cattle but they are large enough for the farmer. Three head of Devons can be kept where two of the others can and at no more expense.

I was on a farm a short time ago where several breeds were kept. The

Devons were fat while the others were in thin condition. The party said he did not feed his Devons as much as the others. He said they kept fat and sleek on much less feed.

For the dairy the Devon is not to be dispised. While they do not give as great a flow of milk as some of the noted dairy breeds but many give 50 to 60 pounds of milk a day and make from 14 to 15 pounds of butter per week. Their milk tests from 4 to 6 per cent butter-fat. No breed gives a better milk for family use than the Devon.

In fact the Devon is the farmer's cow, being good at the pail and making the finest of beef. They dress out well with less offal than most of the breeds.

Let the Devon be given its rightful place among the breeds. It's mission in improving the beef qualities of cattle in beef form is a wide one and the lands well adapted to the Devon cover wide areas.

Hessian Fly and Wheat Straw-Worm. (Continued from page 1.)

equal, the maximum crop for five years has been produced by wheat sown about October 5. Wheat put in the ground two days later or possibly on that date at Manhattan would be completely free from the fall brood of fly. This seems to indicate that the late sowing necessary to avoid the fly may not prove a serious obstacle to securing a maximum yield.

HOW TO CONTROL THE GREATER WHEAT STRAW-WORM.

This insect remains in the stubble and straw, and possibly like its relative, the joint-worm, to some extent in the grass along the fences from harvest time until the following March. If stubble, straw and grass along the fences be destroyed, say, by fire, at any time before the middle of the following February, the new crop of wheat will be practically free from the greater wheat straw-worm and the joint-worm, which is so frequently found with it.

HOW TO CONTROL THE HESSIAN FLY AND GREATER WHEAT STRAW-WORM.

Add to the measures for combating the fly the destruction of the straw and the grass along the fences.

SELF FEED 35 STROKE BALER

"Cyclone" three stroke self feed hay press is latest, most powerful and most efficient. Each circle of team presses three charges. Self feed automatically puts hay down. Wonderfully increased capacity. Write now for "Baler Book" and special low prices. Best press, cost least. Five days free trial. GEO. ERTLE CO., Quincy, Ill. Established 1867.

"OHIO" SILAGE CUTTERS

Unsatisfactory silage often results from long, unevenly cut corn. What's the use of expensive silos and equipment, corn just in right condition, etc., if you spoil the silage in the cutting. Fine, evenly cut silage is highly important. There's just one cutter can produce it. With the "Ohio" you don't risk inferior silage. Ask us to prove this. We can.


Other strong "Ohio" points—capacity, durability and construction, light running, price—make the "Ohio" absolutely dependable under all conditions.

"Ohio" Blower Cutters—6 Sizes 3 to 30 tons an hour—5 to 16 H.P.

You're after absolute proof—we have it. Will you send for it today? 104-page "Ohio" Catalog, and "Ensilage Cutter Thought Starters" booklet free.

The Silver Mfg. Co.
Salem, Ohio

"Modern Silage Methods," 224 pages, 10c coin or stamps



Horses and Corn Growing.

In growing corn one of the factors is first-class motive power. Any one who has plowed, harrowed, planted and cultivated with an ill-matched, short-weighted, high-strung team knows how difficult it is to do good work. No farm hand thus handicapped, can render a service that is satisfactory to a good farmer. Farm teams should be evenly matched as to age, size and temperament. Weight is essential. Teams should be big enough to keep a reserve power constantly on tap; they should draw any implement with ease and at a steady, lively pace. If they are of standard draft type, and are shifted occasionally from one class of service to another, they will go through the season without "break-downs." This depends, however, to a large extent on how they are fed and managed. Much depends also on the ease and comfort that is seldom rated at its true worth which they enjoy in the collar; sore necks and galled shoulders, due to poorly fitted collars, such serious obstacles to good, continuous work. Corn belt farms should be equipped with heavy draft teams; the highest type of diversified agriculture in that territory depends on this reliable, efficient motive power. Big horses bear a close relationship to a big corn crop.—Ex.

Soil-Moisture Problems.

(Continued from page 2.)

ping the fine particles past the coarse ones just as wheat would settle among potatoes. If the plowed ground can be disked to mix the soil thoroughly and plank dragged to pulverize the surface and harrowed with spike set forward or spring tooth to sift the fine soil into the cavities and leave trash and clods on the surface, the stirred soil will be reduced again to a depth of six and a half inches. It is now in the condition to take in the water fastest and to hold back the largest quantity from drainage. The aim of every tiller of the soil is or should be, to protect this structure and prevent its running together into close formation again before the growing plants have woven their network of fibrous roots from within two and a half inches of the surface to the bottom of the furrow slice and thus prevent its further collapse.

A drizzling rain finds its way down into the soil without disturbing the work of the plow and harrow but the heavy dashing rain on a loose dusty surface soon puddles the surface inch into a mud blanket, which afterwards dries into a crust and yet performs an important office in soil water economics. The puddled surface becomes a mud strainer that regulates the amount of water passing through it so that the looser soil below can pass it along without becoming over saturated and break down the recently rearranged granular formation of the soil particles.

Soil particles settle closest together under water as shown by the mud cakes or dried out ponds. The year's rainfall brings every soil to its most compact form, often too compact for free movement of water and air. The yearly plowing and harrowing is to counteract the annual compacting of

The First Perfect Feeding Device For Cream Separators.

We have frequently referred to the recklessly untrue statements and claims made by "desperate would-be-competitors" struggling to retain Cream Separator business that is going to the UNITED STATES SEPARATOR.

We have repeatedly proved by the records of the United States Patent Office at Washington and by the records in the United States Circuit Courts, also by the records of International Expositions, and National Expositions, that most of the claims of these would-be-competitors are false.

They are using desperate and false claims in their efforts to make it appear that they are first in everything desirable in Cream Separators.

The UNITED STATES SEPARATOR was the first to employ a feeding device in the Separator bowl to deliver the whole milk beyond the cream zone. This device of the United States prevents all conflict of currents and any remixing of the cream and skim milk in the process of separation. IT IS FAR SUPERIOR TO ANY "SPLIT WING" DEVICE, more perfect in operation and has won the International prize for the most perfect separation.

The "disc" Separator could not use this device and in its efforts to equal the device of the United States was compelled to resort to an inferior expedient—the "split wing." But the "split wing" does not enable them to equal the United States, as the records show.

The UNITED STATES SEPARATOR was the first to distribute the incoming volume of whole milk back of the cream wall.

The UNITED STATES SEPARATOR was the first to use nonaligned channels for the currents of the milk through the Separator bowl, on which it holds strong patents, and no others can use this construction and it was the UNITED STATES SEPARATOR that beat the "disc" Separator at the greatest International contest of Cream Separators ever held.

The "disc" Separator has never been able to equal this test. It was the UNITED STATES SEPARATOR that beat the "disc" Separator in its own County Fair test and recovered more butter in the cream than the "disc" Separator recovered.

The UNITED STATES SEPARATOR is manufactured under patents owned by IT.

The UNITED STATES SEPARATOR is the originator of the best things in Separator Improvements.

The UNITED STATES SEPARATOR is not an imitator in any particular.

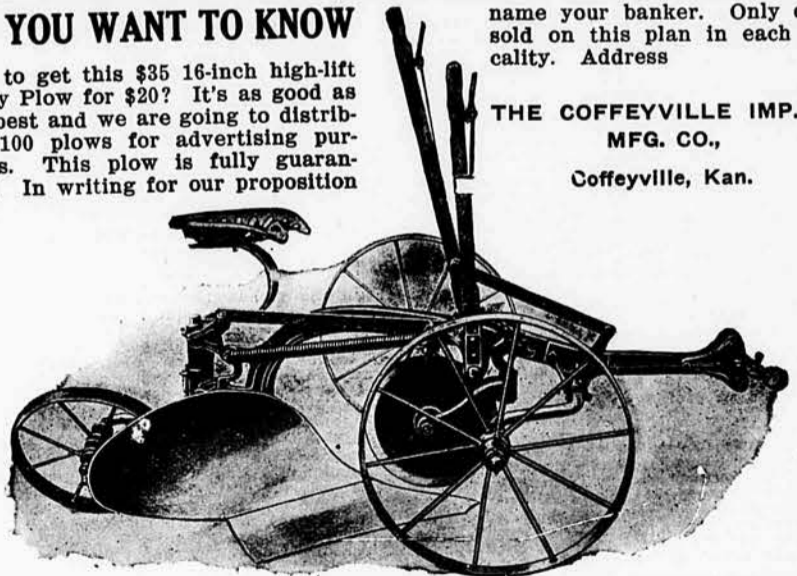
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name your banker. Only one sold on this plan in each locality. Address

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the soil and secure a rearrangement of the soil particles in a slightly looser form more favorable to the free movement of water, air, and the bacterial life that promote plant growth. The tendency of a loosened soil to collapse back to its most compact form is least when it is filled with roots of plants, and greatest when it is fallow. The time elapsing between the preparation of the seed-bed and the time when the roots have taken possession are days of anxiety for the intelligent farmer of clay soil so that his work of soil loosening may not be

undone before the growing plant comes to his aid.

The small grains and grasses that either carry over an extensive root system from the previous season or develop roots early in the season, have, in the surface cover above and the root system below, a measure of protection against collapse. Plants like crimson clover that develop a great mass of fine fibrous roots add greatly to the physical and mechanical condition of the soil, aside from their great value in adding humus while in process of decay.

FIELD NOTES

FIELD MEN.

Q. W. Devine.....Topeka, Kan.
Jesse R. Johnson.....Clay Center, Kan.
J. W. Johnson.....Beloit, Kan.

PURE BRED STOCK SALES.

Percherons.
Nov. 9—J. C. Robinson, Towanda, Kan.
Nov. 11—Percheron Breeders' Sale at Manhattan, Kan. Will H. Rhodes, Manager.

Jersey Cattle.
Sept. 30—Mrs. Wm. Britte, Pierce City, Mo.

Herefords.
Sept. 29—Miss Lou Goodwin's dispersion at Blue Rapids. Chas. R. Thomas, manager, Williamson Building, Kansas City, Mo.
Oct. 6—Sam'l Drybread, Elk City, Kan.

Aberdeen-Angus.
Oct. 27—Sutton Farms, Chas. E. Sutton, owner, Lawrence, Kan.

Poland Chinas.
Aug. 3—J. A. Jenkins and W. L. Clark, Conway Springs, Kan.

Aug. 28—W. L. DeClow, Cedar Rapids, Ia., Percheron mares.

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

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

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

Sept. 23—J. R. Sparks, Hunter, Okla.

Oct. 6—J. D. Spangler, Sharon, Kan.

Oct. 20—John Blain, Pawnee City, Neb.

Oct. 26—C. S. Nevius, Chiles, Kan.

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

Oct. 31—Herman Groninger & Sons, Bendena, Kan.

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

Oct. 27—G. M. Hull, Garnett, Kan.

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

Nov. 3—J. W. Peiphrey & Sons, Humboldt, Kan.

Nov. 4—E. E. Axline, Oak Grove, Mo.

Nov. 10—H. B. Walter, Effingham, Kan.

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

Feb. 12—D. A. Wolfersperger, Lindsey, Kan.

Feb. 15—C. H. Plicher, Glasco, Kan., at Concordia, Kan.

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

Durocs.
Sept. 3—H. J. Coppins, Potwin, Kan.

Oct. 27—Pearl H. Pagett, Beloit, Kan.

Nov. 5—Minor & Cross, Guide Rock, Neb.

Nov. 8—C. L. Carter, Cabool, Mo.

Nov. 9—A. L. Aitkin and W. W. Weast, Parsons, Kan.

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

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

Jan. 31—J. E. Joines, Clyde, Kan.

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

Feb. 2—E. M. Myers, Burr Oak, Kan.

Feb. 3—Rinehart & Slagle, Smith Center, Kan.

Feb. 4—W. C. Whitney, Agra, Kan.

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

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

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

Feb. 10—Samuelson Bros., Blain, Kan.

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

Feb. 18—T. E. Goethe, Leonardville, Kan.

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

Feb. 22—Pearl H. Pagett, Beloit, Kan.

Feb. 23—F. G. McDowell, Corning, Kan.

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

Berkshires.
Aug. 31—Sutton Farms, Chas. E. Sutton, owner, Lawrence, Kan.

Combination Sales.
Sept. 23 to Oct. 1—Woodson County Breeders' Association will sell: Aberdeen-Angus cattle, Sept. 29; Shorthorn cattle, Sept. 30; Durocs, Berkshires and Poland Chinas, Oct. 1. Write G. A. Laude, Secretary, at Rose, Kan.

Dec. 17-18—Enid Fine Stock Show and Sale, F. S. Kirk, Manager, Enid, Okla.

Nebraska has announced the expert judges for her State fair. These include two Kansas men. On beef cattle Mr. E. R. Morgan of Blue Rapids and on poultry, Mr. C. H. Rhodes of Topeka are the gentlemen named.

The American Hereford Breeders Association offers special cash prizes for Hereford cattle shown at the State Wide Fair at Topeka just as they do at the American Royal, the International and the Alaska-Yukon-Pacific Exposition. Kansas is recognized by this live association as one of the most important centers of the Hereford breeding industry.

The splendid young herd of Duroc Jerseys at Burr Oak, Neb., owned by E. M. Myers is one of the best in the country. The writer has known Mr. Myers ever since he started in the business and his advancement along the lines of up-to-date breeding and the attraction he has drawn to his herd reflects credit on Mr. Myers' good judgment and sound business methods. His crop of spring pigs numbers around 75 and they are indeed a nice even lot. They are all sired by his two well known herd boars and a few of them by a son of Pearl's Golden Rule. He has claimed February 2 as the date of his bred sow sale and will sell in the circuit in which Pearl H. Pagett, J. E. Joines, Rinehart & Slagle and W. C. Whitney sell the same week. It will be one of the big Duroc sale circuits of the West and will draw breeders from all over the country because of the well known high quality of the different offerings. Mr. Myers is offering a few very choice young males of this spring's farrow that are good enough for any company. Write him for prices at once.

Durocs at \$15 Each.
Elsewhere in this issue will be found the advertisement of Paul B. Johnson, Duroc Jersey breeder of Leavenworth, Kan. Mr. Johnson owns a fine place comprising 70 acres in the city limits. Plenty of shade, water and an abundance of pasture. Mr. Johnson isn't keeping a large herd but gives the pigs the best of attention. They are simply fine, very thrifty and extra good colors. Mr. Johnson's idea is to clean them out while they are young, thereby saving the buyer quite a little in price and more in express charges. Please mention Kansas Farmer when writing.

The Alysdale Shorthorns.
C. W. Merriam, who owns "beautiful Alysdale" and its fine Shorthorns near Topeka reports the sale of the splendid young

roan bull Percy of Alysdale 367358 by Master of Alysdale 241619 to Phillip F. Gers, Valeda, Kan., this week. There are a few other bargains yet remaining at Alysdale. Among them are 10 fine young all-red bulls by Prince Consort 187208 or Master of Alysdale 241619 that range from 6 to 14 months and 10 or a dozen young cows and heifers of the same breeding. Reasonable prices will be made and they will be sold singly or in lots to suit. For the good, useful kind of Shorthorns Alysdale is a good place to visit and besides "Alysdale is the prettiest farm in Kansas."

Mexicans to Visit Farms.

One hundred wealthy Mexican farmers will make a tour of the corn belt and small grain states in October, November and December this year, being brought to this country by Senor Zeferino Dominguez, a big planter and progressive agriculturist. This party intends to visit many farms in the West, attend a dry farming congress, be present in Chicago at the United States Land and Irrigation Exposition the last week in November and then attend the International Exposition the last week in November and then attend the National Corn Exposition in Omaha December 6 to 18. Senor Dominguez has asked President Funk of the National Corn Association to suggest places for the Mexicans to visit, and many suggestions are being sent to the corn show people at Omaha.

Fall Berkshire Boars.

This issue of Kansas Farmer contains the announcement of Dr. G. A. Tull of Clay Center, Kan. Dr. Tull is offering for immediate sale a few very choice last fall Berkshire boars. They are good individuals, very growthy, good wide short heads and fine prospects for herd boars. They were sired by General Premier 93894 and their dams carry the blood of the very best Berkshire families. They are close up to such good ones as Black Robinhood, Baron Lee 4th, Royal Empress, Silver Tips 90th and other good ones. Perhaps one of the best bred sows to be found in any herd is the great sow Miss Silver Tips 101804 owned by Mr. Tull. She is the dam of the best of the young boars. She was sired by Homestead Premier 94223 and her dam was Silver Girl 3d 101553. Write for description and prices on these boars and kindly mention Kansas Farmer.

Some Big Kansas Colts.

J. A. Gifford, the Percheron breeder at Beloit, Kan., has a Percheron filley, one year old on April 4, that weighs 1,400 pounds and has a heart girth of six feet five inches. He also has a Percheron colt that weighed 315 pounds at 30 days and 465 pounds at 60 days. He writes, "My filley does not run in the pasture at all. She, with four others, have all the alfalfa hay they want and about 40 pounds of corn per day. They are fed in a darkened shed to keep away from flies. The brood mares and foals are in pasture at night but stay in a darkened, well-ventilated basement barn in day time. They are fed lightly on corn three times daily. The four-year-old stallion that I showed at the International as a yearling now weighs 2,100 pounds. I work the stallion in harness but do not work the mares a great deal. Would like to know if any Kansas Farmer reader can beat the colts mentioned above."

The Pawnee Polands.

Geo. W. Smith, who breeds the big Poland Chinas at Pawnee City, Neb., and who has Mammoth Hadley 52628 at the head of his herd, says that his spring pigs are getting along so well this hot weather that they "look considerable like hogs." He thinks he will have some weighing right at 300 pounds by October 27, which is his sale date. Mammoth Hadley weighs 575 at 16 months, has a 10 1/2 inch bone and the best of feet. If he were put in the show ring this fall "some one would know there had been a good hog about." The sows in this herd are by Prince You Tell 32204, Big Major 41101, Improver 44513, Clever Boy 36189 and others of that kind. If you are going to need a good boar or a few gilts this fall we suggest that you write Mr. Smith for description and remember that he will hold a public sale on October 27.

DeClow's Percheron Mare Sale.

W. L. DeClow, the big importer of Cedar Rapids, Iowa, has announced a sale of 50 head of imported draft mares to be held on Wednesday, August 18. In preparation for this event he announces that his first importation of Percheron mares has arrived in good shape and the second is expected this week. These include 30 head of high class animals. The third importation will arrive about August 1, and will be made up wholly of Belgian mares. These are all choice animals selected from these two breeds so as to give the purchaser his choice with assurance of good quality in both. The sale catalogs give individual pedigrees and descriptions and will be ready for distribution on July 26. Write now and get an early copy. Mr. DeClow is expected to make an unique exhibit of imported horses at the larger State fairs and horse shows this fall and a place for him is booked at the State Wide Fair at Topeka.

Kansas Shorthorns for the Alaska-Yukon-Pacific Exposition.

Already has the influence of Kansas Shorthorn cattle made itself felt on the Pacific coast. To such an extent is this true that the Silver Creek herd, owned by J. F. Stodder, Burden, Kan., been called upon for two of its best show heifers and the Elders-lawn herd belonging to T. K. Tomson & Sons, Dover, Kan., for College Mary, a matron of more than State wide reputation. The Stodder heifers are Bright Star and Princess Archer who formed a part of the wonderful string with which Stodder made such a record in the show ring both in the individual classes and as the get of his famous herd bull Captain Archer. College Mary was bred by Prof. R. J. Kinzer of the Animal Husbandry department of Kansas Agricultural College. Her sire was the college herd bull Ravenswood Admiration and her dam a daughter of Gallant Knight who made the Tomson herd famous. These three animals were bought by W. O. Minor, Heppner, Ore., for the express purpose of winning the big prizes at Seattle and it is an even guess that he will pretty nearly do it.

Sollenberger's Durocs.

R. G. Sollenberger, Woodston, Kan., the Duroc Jersey breeder, is highly jubilant over crop conditions in Rooks county. He has almost 100 acres of barley that will make 30 bushels to the acre. Also an acreage of wheat that will yield the biggest average per acre he has raised for some time. His corn crop is looking fine and with recent rains is almost sure to make good and the indications are for a bumper crop. His crop of spring pigs, which numbered around 100, has been closely culled and all that was not top sold readily at

good prices to farmers who wanted a few pigs. There was never the scarcity of hogs in Rooks county that there is at this time. Mr. Sollenberger is one of the breeders who kept his herd intact all the way through the last depression in the hog business and now is in splendid condition to make money out of the business. His fine stock farm of 600 acres enables him to give them the range and, with the splendid crop already in sight, and some of them in the bins by this time, there is no reason why he should not make money out of the hog business this year. His herd is known as one of the richest in breeding and individual merit in the West. He is ready to price choice young males of March and April farrow at reasonable prices. Drop him a line for information and prices.

Leon A. Waite Starts Card.

A fieldman for Kansas Farmer called on Leon A. Waite at Winfield, Kan., and found him a very busy man caring for his herd of over 250 head of fine Berkshires. Mr. Waite is the proud owner of one of the best bred herds in Kansas, and for individuals we have not found a better bunch of Berkshires in the several states we travel over. No breeder in the West has a better foundation herd of brood sows representing the blood lines and sired by such noted sires as Masterpiece Climax No. 101000, Young Premier, Chief, Royal Goods, Lord Premier No. 50001, Masterpiece No. 77000, Baron Duke 50th No. 75000 by Imported Luster Bachelor. Mr. Waite is selling Berkshires to the best breeders in Kansas and other states. He has a large mail order trade and always pleases his customers. No prospective buyer need not fear getting his money's worth if he send an order to Mr. Waite. The writer saw a shipment of 15 head of spring pigs going to one of the large breeders of Berkshires at Runkle, Ia. These were all sired by Masterpiece Charming 2d and were as even a lot as we ever saw. They looked like "ready money." They were large, even and well grown out. Mr. Waite is not only a breeder but a feeder and always gets the growth on the pigs at the proper time, making them a useful lot for any prospective buyer. Kindly look up Mr. Waite's ad and send in your order for a pair or trio of his valuable Berkshires. He makes the price right and guarantees satisfaction. Mention Kansas Farmer when you write.

The American Aberdeen-Angus Association.

Secretary Chas. Gray of the American Aberdeen-Angus Association, in a recent statement about the success and prospects of this great breed, says: "There has been a marked increase in the sale of bulls this spring. This is evidenced by the number of bull transfers recorded in the office of the association. The sales in Great Britain, especially the Perth sale in Scotland, made substantial increased averages this year over the 1928 averages. The sales in the corn belt have been in every sense of the word a success. Although a few of the averages made on cattle in rather thin condition fell below the \$100 mark, the average of \$216.76 on 39 head made by Andrews-Davis of Missouri; \$250.90 on 76 head by Chas. Escher & Son of Iowa; \$274.25 on 67 head by Donohue-Davis-Leahy of Iowa, and \$218.50 on 94 head by Stanley R. Pierce of Illinois, is a criterion of the business, and gives conclusive proof that it is in a healthy condition with an increase in prices in many instances of 25 per cent. Cattlemen and farmers are now aware of the shortage of cattle. Abundance of roughage is now in evidence in form of grass and hay, and one is already safe in predicting that there will be a bumper crop of corn. With a full realization of these facts every indication points toward much greater activity in the cattle business. The association has appropriated liberal special premiums for this year, details of same will be found on pages 83 to 103 of enclosed pamphlet. Anyone who intends to exhibit at the Alaska-Yukon-Pacific Exposition should advise the secretary as soon as possible. Breeders who expect to exhibit at the American Royal Live Stock Show will find an entry blank enclosed herewith. The association will hold sales at Kansas City, Chicago and Denver in connection with the respective shows; American Royal, International and Western Stock Show. Details of the requirements of these sales are given on pages 105, 106 of pamphlet.

Shriver & Coleman Sale.

August 26 is the date claimed by A. W. Shriver of Cleveland, Kan., and W. R. Coleman of Kingman, Kan., for their sale of Poland Chinas to be held at Cleveland, Kan. The sale will be one of the great attractions that will be pulled off during the month of August. Some of the best individuals that ever breathed American air, or ever passed under the hammer of any auctioneer will be sold at this sale. The fact that Mr. Shriver and Mr. Coleman stand behind every one of these individuals is enough said to prove that they will be the kind to buy. Mr. Shriver and Mr. Coleman are among the older settlers of the country and are men that are responsible for every statement they make. Don't fail to send in your name for a catalog early and watch for sale ad in Kansas Farmer. A breeder who is laying the foundation for a herd cannot afford to let any of these valuable sows sell for a sacrifice price. There will be sold in this sale one of the best Perf. E. L. sows and one of the best On and On sows ever sold in the State at public sale. They are pure gold in every sense. There are three Meddlers that can trot in the same class. One Impudence, one Keen On, one Chief Perf. 2d, one Intruder, one Ideal Keep On, one Chief On and On, one Searcher, he by Meddler; two Corrector 2d, one Next in Line, one E. L. Perfection, one Chief Sun-

shine 2d, one Cute Special. These valuable sows bred to Ideal Spell or Roll in Line, will produce a cross that will make an offspring that will make the folks at home sit up and take notice. Among the many other attractions is a sow that Mr. Coleman will consign, Beauty, sired by Mischief Maker, and her dam was Perfect Beauty. This sow is a show prospect and a regular breeder of the large, even litters if crossed with the right sire will show her presence in any herd no matter how strong the competition may be. Make your arrangements now to attend this sale and buy some of these good things. Get your name in early for catalog. The offering is fine and you will be pleased if you buy. Kindly mention Kansas Farmer when you write. August 26 is the date and Cleveland, Kan., is the place.

I'll Save You \$50 On a Manure Spreader If You'll Let Me

This is just a little ad—but a postal will bring my Big Book—and give you my \$50.00 Saving Price and Special Proposition. You can save as much answering this little advertisement as if it covered a page. My Spreader positively will do better work and last longer than any Spreader made—no matter what the price—so why pay \$50 more? 20,000 farmers have stamped their O. K. on my spreader and money saving price. My Special Proposition will interest you. Just a postal addressed to Galloway of Waterloo, Iowa, will bring you everything postpaid. Will You Pay a Penny For The Postal and Save \$50.00? Address Wm. Galloway, Pres. WM. GALLOWAY CO. 389 Galloway Sta. Waterloo, Ia.

BUFF ORPINGTONS.

BUFF ORPINGTONS.—Chicks, pens, baby chicks, eggs. More first prizes State Fairs and State Shows than all other breeders. My POULTRY BOOK, containing information worth hundreds of dollars to farmers sent for 10 cents. W. H. MAXWELL, R. 95, Topeka, Kan.

LIGHT BRAHMAS.

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

PLYMOUTH ROCKS.

BREEDERS.
Our White Rock breeders are for sale at right prices. SMITH & KNOFF, Route 2, Mayetta, Kan.

PURE BRED POULTRY.

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

For Sale

S. C. Buff Orpington and R. C. R. I. Red cockerels, \$1 to \$5 each.

White Plymouth Rocks, pullets and cockerels, for \$1 to \$2.50 each.

Also some of my breeding stock of Red, White Rock and Buff and White Orpingtons, \$1 to \$5 each. Extra fine White Plymouth Rock 2 year old male bird \$2.50.

Mrs. Lizzie B. Griffith,

Route 3, EMPORIA, KAN.

RHODE ISLAND REDS.

ROSE AND SINGLE COMB RHODE ISLAND REDS.

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

H. A. SIBLEY, Lawrence, Kansas.

LEGHORNS.

SINGLE COMB BROWN LEGHORN eggs 15 for \$1, 100 for \$4. H. N. HOLDEMAN, Meade, Kan.

BUFF COCHINS.

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

BREEDING STOCK FOR SALE

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

THOMAS OWEN, Station B, Topeka, Kansas.

SYCAMORE MINERAL SPRINGS, SABBETHA, KANSAS

The medicinal properties of these springs are unquestionable. The most persistent cases of RHEUMATISM, KIDNEY TROUBLE and STOMACH COMPLAINTS have been cured here. Hundreds of Kansas people visit these springs every year. Delightful health and pleasure resort; excellent hotel accommodations. Rates reasonable. Located 6 miles from Sabetha, Kan. For further particulars address E. V. KAUFFMAN, Prop., Sabetha, Kan.

Shorthand Department

BY GEO. E. DOUGHERTY, TOPEKA.

UPWARD STROKES

DOWNWARD STROKES

A dot under the end of a sign indicates "ing" or "thing."
Longhand methods of abbreviation are used also in shorthand.

LESSON XIII

Handwritten musical notation on ten staves, featuring various rhythmic values and accidentals.

Now write out the others and send them for correction and suggestions to the editor of this department, in accordance with the arrangement indicated at the top of this department.

ing. Mr. Logan is a close student and is indeed a very competent judge and we want to say right here, whether he likes it or not that any fair or stock show that is in need of a competent judge would be fortunate indeed in securing the services of Mr. Logan as a live stock judge. We have not consulted him, but think he could be secured. Below we are giving short notices of the herds we visited. From time to time we will give other information about these herds and what they have to offer. In another place in Kansas Farmer will be found a section devoted to Mitchell county advertisers which will be carried in that style for one year. The cards will be changed from time to time as conditions require it.

SHORTHORNS.

SHORTHORNS.—The **Plymat Shorthorns**.—In the south part of Mitchell county and only about five miles from Barnard, Kan., is located Vinton A. Plymat, breeder of Shorthorn cattle. Mr. Plymat came to Kansas in 1884 and located on the farm where he now lives. He has now 700 acres of land and is well equipped for the cattle business. His herd, which in point of numbers, is of good size is headed at the present time by Duke of Walnut Grove 232989 got by Dot's Duke of Honor 139477. He is five years old and a good producer. Scotchman 231730 got by Sweet Charity 8th and tracing to Imp. Charity 3d and who is also five years old is another herd bull in service in this herd that is giving perfect satisfaction. Mr. Plymat is offering for sale young bulls of top breeding and of serviceable age and a few young cows. These animals are all good and useful and would not be priced if they were not so. They will be priced worth the money. We enjoyed a short visit with Mr. Plymat last week and found him to be a very intelligent and up-to-date breeder who loves his herd of pure bred Shorthorns and takes much pains with it. We are glad we got acquainted with Mr. Plymat and will have more to say about his herd later on.

S. G. Jennings' Shorthorns.—A young herd of Shorthorns that has attracted their share of attention is S. G. Jennings' herd at Simpson, Kan. In the combination cattle sale held by the association last winter it was a young bull consigned by Mr. Jennings that topped the sale. His herd bull Josephine's Gloster sired by Scottish Gloster and out of Josephine, one of the great cows in the Wm. Wales herd at Osborne, has many friends among Mitchell county Shorthorn breeders. He is a great sire and deserves popularity. Mr. Jennings is offering some

young bulls for sale got by Senator and others. The young bull referred to that topped last winter's sale was got by Spartan Viscount and was out of Biondines Queen, a cow that was bred by Powell Bros. of Lee's Summit, Mo., and who won second in the Mitchell county fair in hot competition. While Mr. Jennings has not a big herd it is true that what he has is of the very best both individually and in breeding. He expects to go on breeding up and will not be satisfied with an ordinarily good herd. He has made this clear already by what he has done toward establishing himself as a breeder of the best in Shorthorns.

Bookdell Shorthorns and Poland Chinas.—E. E. Booker & Son, proprietors of the Bookdell Stock Farm herd of Shorthorn cattle and Poland China swine, located south of Beloit, Kan., is one of the ideal stock farms of Mitchell county. It numbers 520 acres of good land and has a modern farm residence with barns and other equipment that make it a pleasant work caring for their pure bred stock. E. E. Booker came to Mitchell county in 1884 and has, by hard work and good management, become well to do. He is just a young man and enjoys life to its fullest extent. He owns one of the highest priced autos owned in Mitchell county and is one of the farmers who believes nothing is too good for his family and himself. He takes an active interest in the Mitchell county fair and, with Mrs. Booker who is superintendent of the culinary exhibit, is doing all he can to promote this already highly successful agricultural and fine stock exhibit. Their herd of Shorthorns numbers 40 head and is headed by Dennis Pavonia 285477 by Prince Pavonia. His dam was got by Gallant Knight. Some of the richest breeding in Shorthorns in Mitchell county is right here in this herd. Mr. Booker and his son believe in pure bred stock of all kinds and their herd of Poland Chinas deserve more mention here than space will allow. They will have, pretty soon, a nice number of young males and females for sale which will be priced right and nothing but the best offered. They also breed pure bred Silver Laced Wyandottes.

Briney & Briney Shorthorns.—One of the young herds of Shorthorns that bid fair for success are those of the one now being founded by Briney & Briney a few miles south of Reloit, Kan. Their foundation was secured from the two well known herds of F. P. Cook and E. P. Mitchner. The Mitchner herd was well and favorably known up to the time it was dispersed two or three years ago when Briney & Briney bought

The Alaska-Yukon-Pacific Exposition is offering \$67,500 in cash prizes on live stock and in addition to this many valuable cups, medals and diplomas will be given. The premium list together with the official rules and regulations are now being sent to breeders throughout the United States, and many entries have already been made, so that the management confidently expect that the feature of the exposition to be, not only one of the largest but the very largest attraction in point of general interest to be seen on the grounds. The live stock exhibit will open September 27 and close October 9. The premium list is very comprehensive, offering various prizes upon every class and character of the recognized breeds of live stock and of such number that every exhibitor will stand a show of winning something. Liberal concessions have also been made by the railroad companies whereby the stock shown at the exposition can be returned home free of charge. This success of the exposition is under the management of experienced men who are old-timers in the live stock exhibition business and every facility will be furnished exhibitors to exploit the merits of their entries, and an absolutely square deal is promised everyone in the matter of awards. The Alaska-Yukon-Pacific Exposition will play no favorites, competent judges will be provided and awards will be made from the standpoint of merit alone. Entries will close August 1. An official catalog will be published showing the number, name, herd registry number of each animal with the name and address of the breeder, also the registry number of the sire and dam.

A Farm Worth the Money.

In this issue of Kansas Farmer J. C. Weaver, the rustling land man of Wakefield, Kan., advertises a fine farm near that town fairly well improved at \$6,500. Wakefield is in Clay county and is one of the best towns in that county. Mr. Weaver is a fine fellow to deal with and if this shouldn't suit he has others.

See the Country Free.

In their advertisement which appears in this issue Newton & Eaton, the hustling real estate men of Clay Center, Kan., have a very attractive proposition in this issue of Kansas Farmer. They propose a free trip to prospective buyers wanting to locate in Oklahoma, Texas or Kansas. These gentlemen have a splendid knowledge of conditions in the different parts of these states and know where the bargains are to be found. Write them and mention Kansas Farmer.

Great Faith in Absorbine.

Another example of what my customers thing of my remedy for use on blemished horses is found in the following letter, received under date of March 19, 1909, from E. S. Jenkins, Center Point, Ind. He writes: "I have been using your Absorbine for two years with great success for contracted tendons, lumps, swellings, etc. Had a horse that had been lame for 18 months with strained tendons of the left leg, and two and one-half bottles of Absorbine cured him. I have great faith in Absorbine for such cases as I mentioned. Have recommended its use to many and have aided the druggist in building up a pretty fair sale of it in our little town. I don't deserve any praise for this, for I feel that I owe it to the medicine to tell my friends of its merits." You would find Absorbine equally beneficial if you, if you do not already have one of my free booklets, write at once to me to procure the remedy at your druggist's on prepaid postpaid upon receipt of \$2.—W. F. Young, P. D. F., 211 Temple street, Springfield, Mass.

Auctioneering School at Lincoln.

The National Auctioneering School of America located at Lincoln, Neb., is an institution that teaches practical auctioneering by mail. These lessons are prepared by some of the most eminent men in the auction business in the world. Among those whose assistance has been secured are Col. F. M. Woods, Col. T. C. Callahan of Omaha and Col. S. Z. Branson of Lincoln. All are men with a wide experience on the auction block. The charges are reasonable and the lectures prepared by either of these gentlemen are worth more than the ones charged to any young man who desires to succeed in the auction business. Being a successful auctioneer does not depend altogether on well trained vocal organs. Two Kansas Farmer fieldmen were in Lincoln recently and investigated this school thoroughly and were convinced that it was just the thing for young men who desire to start in the business right and at the same time cheaper than learning the business in any other way. As was said before the men back of this enterprise are all well known to Kansas Farmer people as being reliable and trustworthy in every respect. A card addressed to the National Auctioneering School of America, Lincoln, Neb., and mentioning Kansas Farmer will receive prompt attention. It will only cost you one cent to do this. The offices are located in the F. & M. building in Lincoln, Neb.

High Grade Commercial School.

The Commissioner of Education, Washington, D. C., in making up his annual report last year, of commercial schools, rated the Omaha Commercial College of Omaha, Neb., among the ten largest and best in the United States. This is the best advertisement any school could have for it means that the school possesses every advantage and facility required. This is one of our old and reliable schools. It has always been progressive in policy, thorough in instruction and a leader in methods. Thousands of young men and women have graduated from it and today are prominent in commercial life. Recently this school erected a magnificent new building for its home, and since doing that its attendance has nearly doubled. It has a strong man at its head and a strong and efficient body of instructors, so students are abundantly provided with everything to insure rapid progress. This school is credited with doing a straight legitimate business, no fakery, no deception of any sort. It has earned its reputation by doing honest work and living up to its promises. Every year as competitors students are placed in positions and yet it is unable to supply the numerous calls made by business houses. If you are going to a commercial school it will pay you to select a good one. If you attend the Omaha Commercial College, you will get the value of every dollar spent. Write M. G. Rohrbough, Omaha, Neb., for a catalog. It will be sent you free. Examine this and you will see what kind of a school it is.

Among the Mitchell County Breeders.

Mitchell county, Kan., was organized in 1870 in what was then known as the Great American Desert. It was settled by wide awake, energetic men and women who saw, in the rich and fertile valleys and gently rolling prairies, a great opportunity and grasped it. In the 39 years that have elapsed they have seen their county grow into one of the fairest of the State with a population of 15,000 of whom about 3,000 live in Beloit, the county seat. They now have more than 100,000 acres of winter wheat, nearly as much corn, 25,000 acres of alfalfa and other crops in proportion. On these they raised 13,563 horses and mules, 31,616 cattle, 34,000 sheep and 34,000 swine of a total value of \$2,679,715 for 1908. Mere numbers do not count so much as quality and Mitchell county takes high rank as the home of numerous herds and flocks of pure bred animals which are fostered by the Mitchell County Breeders Association and of which are remarkably successful. The Mitchell County Breeders Association is an organization of the breeders of pure bred stock for the promotion of the interests of those engaged in the business and to secure for the farmers of this county better farm animals. There are more than 35 herds of recorded animals in the county which is a fact of which any county in any western State might well be proud. Several of these

herds are the homes of International prize winners. One Percheron horse breeder has three prize winning animals in his herd. A cattle breeder owns a bull that has won not only first at the International but at several of the big State Fairs as well and has never met defeat. Another Percheron breeder is the owner of a stallion that was sent to the International from Mitchell county and won second in the warmest kind of company. There are over 100 head of recorded Percheron horses in Mitchell county, ten herds of recorded Shorthorn cattle, three herds of Herefords, two of Aberdeen-Angus and four different breeds of hogs are represented with registered herds. This association is indeed doing its work well and Mitchell county farmers are the ones who are being benefited by it. Recently the writer, representing Kansas Farmer and accompanied by Mr. E. C. Logan, who is president of the Mitchell County Fair Association and who was out in the interests of that organization, made a very extended trip over Mitchell county. To be able to tell all that should be told concerning the herds of fine stock we visited during this trip would take far more space than we are usually allowed. We enjoyed the trip very much indeed. Mr. Logan is one of the best judges of live stock of all kinds it has ever been out lot to associate with and we never realized until this trip how little we really knew about stock judg-

Now a Guaranteed Bank

The State Savings Bank

Sixth and Kansas Ave., Topeka, Kan.

Capital - - - \$100,000
Deposits - - - \$1,180,000

Invites Savings Accounts, Time Certificate Accounts and Checking Accounts.

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many of the desirable young cows and the herd bull. The herd bull is recorded as Alfonso 269982 and was sired by Magnet 182058, his dam was Maple Hill Gazelle 10th, bought by Mr. Mitchner at the American Royal, '05. Magnet was by Pure Gold and was sold at the American Royal in 1902 for \$800. Their herd is a Scotch topped herd and contains much breeding that is well and favorably known. They have spring calves that will likely cause trouble at the fair this fall where they will be shown. The Briney brothers are well known in Mitchell county as hustlers. They are up-to-date farmers and champions of pure bred stock. Their herd of Shorthorns will be added to as the occasion demands and they will forge to the front with their herd until it is one of the great herds of the West. This is the Briney way of doing things and all their friends wish them well with their nice herd.

Elmer C. Creitz Shorthorns.—Elmer C. Creitz is proprietor of another of Mitchell county's pioneer herds of Shorthorn cattle. The herd is at least the second oldest herd of Shorthorn cattle in Mitchell county. Gloster's Model 287840 by Scottish Gloster 236978 who was Wm. Wales' noted herd bull, was bought of Mr. Wales as a calf when he was shown in the Mitchell county fair two years ago where he won first in class. Mr. Creitz paid \$250 for him and has never regretted his purchase. He is a great bull and a valuable sire. The string of cows and young heifers in this herd are certainly good to look at and have been bought and reserved with good judgment. Mr. Creitz is offering for sale three yearling bulls, two of them sired by Prospector, a bull of merit, and one of them by Gloster's Model. Also a few choice cows bred to Gloster's Model. Mr. Creitz was born and raised in Mitchell county and has been associated with the breeding of Shorthorns all his life. He is well posted on their history and is fast building his herd to the point where it will attract attention with the best herds in the country. His farm is only a few miles south of Beloit, Kan.

McCleary's Shorthorns and Percherons.—One of the nice young herds of Shorthorns in Mitchell county is Chas. S. McCleary's herd. Mr. McCleary is a young man who has just got nicely started in the Shorthorn business and, while his herd is not very large, it makes up for what it lacks in size by quality. His herd bull, Duke of Dundee 285352, got by Archer 205740, was bought in Tomson's sale at the Agricultural College two years ago. Mr. F. P. Cooke was a buyer in that sale and bought the mother of this bull at a long price. She is a very fine pure Scotch cow and is still in Mr. Cooke's herd. The bull we believe is one of the really good bulls in Mitchell county and there are a number of them. Archer is a well known herd bull in the Tomson herd at Dover, Kan., and on the dam's side Mr. McCleary's bull is a grandson of Gallant Knight. So it will be readily seen that his breeding is all that could be desired. Five cows in this herd are by Mr. Cooke's well known Rose Duke. Others are by Scotchman. Mr. McCleary is located about 10 miles from Beloit, Kan., and is laying the foundation for one of the good herds of Mitchell county. He is also starting in the Percheron horse business. He bought two registered Percheron mares of O. L. Thieser of Chapman, Kan., last winter. He was a consignor in the Association's sale at Beloit last winter. Those who know Mr. McCleary expect that he will hold his own in the Shorthorn business.

Glendale Shorthorns.—The Glendale herd of Shorthorns, owned by Frank P. Cooke, Beloit, Kan., is conceded to be the pioneer herd of Shorthorns in Mitchell county and

one of the first herds of pure bred cattle in North-central Kansas. There are several other residents of the county who bred Shorthorns in an early day in Mitchell county but as near as we can learn Mr. Cooke has bred and kept up the registrations on his cattle longer than any other breeder in the county. Today his herd is one of the real strong herds of the West and in our visit with him recently we learned that he has designs on certain other famous herd bulls and is not yet satisfied with what he has accomplished. He has bred Shorthorns for twenty years continuously and has kept abreast of the times by buying liberally of the best individuals and breeding. His herd is quite large and is, in fact, probably larger than it should be with the amount of pasture and scarcity of help with which Mitchell county farmers have to contend. Anyway he is offering seven Select Goods heifers for sale. Select Goods was sired by Choice Goods. These heifers are yearlings and very toppy. They will be priced worth the money. Among the sires of their dams are Gallant Knight, Rose Duke and Graylock. Five or six of these great dams are daughters and granddaughters of Spartan Hero (imp.). Mr. Cooke has a nice farm of 220 acres and is one of the pioneers in Mitchell county.

The Bemis Shorthorns and Hampshires.—Geo. W. Bemis Cawker City Kan. is a young man just getting well grounded in the Shorthorn business. His foundation is being well provided for as he has bought nothing common in the way of breeding and all the animals now in his young herd are of the very best breeding and individually are good as he has made all his selections personally and selected nothing but the best in that respect. The Bemis family is a pioneer family in Mitchell county and especially in the west half where they have lived for a good many years. The herd bull at the head of this herd is a great sire and is recorded as Dreadnaught by Imp. Day Dream's Pride. He is four years old and was secured from Mr. Hackler who reserved the right to use him as he valued him very highly as a producer of heifers. The foundation stock in this herd has been largely drawn from the Babst & Son and Pringle herds. Mr. Bemis owns 160 acres of land just north of Cawker City which is highly improved and an ideal cattle farm. He also breeds Hampshire hogs and has a number of young males of this spring's farrow for sale. Also some females. He also has one yearling bull which is for sale.

John Stroh's Shorthorns.—John Stroh, located on a fine 480 acre farm five miles south of Cawker City, Kan., is responsible for one of the best herds of Shorthorn cattle to be found in the West. In this herd we found 10 pure Scotch cattle and one imported cow. The herd numbers 40 head and has been assembled from the best herds in the country. Mr. Stroh has set about the building of his herd in a quiet manner and has just arrived at the point where he wants to let his light shine. Sittytown 2d, bred by Geo. Walker of Aberdeenshire, Scotland, and imported by Geo. Harding, is a splendid specimen of the breed and would be a credit to any herd. Another pure Scotch cow is Larchmont Duchess of Gloster and still another young cow is Gloster Violet. The herd bull in Popular Knight by Gallant Knight who is the sire of six bull calves that you should see if you are a lover of Shorthorns. A young bull that is being reserved is by Secret Orange and out of Larchmont Duchess of Gloster. He is a pure Scotch bull and is simply great. Mr. Stroh came to the United States from Canada direct to Mitchell county in '78 where he was raised and where his people were interested in the Shorthorn business. He knows Shorthorn history and talks it right from the shoulder in a very interesting manner. He is five miles south of Cawker City, Kan.

Meall Bros.' Shorthorns.—Meall Bros.' herd of Shorthorns near Cawker City, Kan., has been in existence since 1900. The father of the Meall brothers homesteaded on the quarter section which is now the home of this well known herd. Seven hundred and twenty acres are now owned by them and constitute one of the best farms in Mitchell county. The herd numbers about 50 head and is headed by Royal Goods 293825, he by elect Goods by old Choice Goods. His dam

is the great cow Miss Josie B. 2d, got by Laird of Linwood, one of the great bulls in Senator Harris' herd at Linwood, Kan. The dam of Miss Josie B. 2d was by Lord Mayor. She is one of the great cows of the breed and was once a noted prize winner at the State Fair. She will likely be seen at the Mitchell county fair this fall although she is getting along in years. She will be shown along with some of her calves that are a credit to the Meall brothers and the breed. In addition to a few very choice young bulls of serviceable age they have 12 or 15 very fine spring calves which will be priced later. Their farm is near Cawker City and is right across the river from Waconda Springs which is only three miles from Cawker City, Kan.

HEREFORDS.—One of the largest herds of Hereford cattle in Kansas is the F. L. Brown & Co. herd near Sylvan Grove, Kan. The herd numbers over 100 head and is the home of the great young bull Castor 259475 which has a show record that is second to none in the West. He was got by Young Beau Brummel 207148 and his dam was the Duchess of Sunset Farm 135560. He was bred by Jas. E. Logan and shown as a calf in 1907 at all the big State Fairs and never failed to win all that it was possible for him to win at his age. At the International at Chicago he won first in class and junior champion. At the International in 1908 he won first and sweepstakes and at St. Joseph he won junior sweepstakes bull and junior yearling bull. Hereford breeders all over the country know of this fine young animal and will be glad to know that he has gone on until there is no doubt that he is better than ever. He will not make the big shows this fall because this company have other use for him than that of a show bull. He is certainly one of the greatest bulls in the country. Another bull that we must mention is Armour Cavalier 173405 who is now five years old. He was sired by Imp. Majestic and is the sire of the principal part of this season's show herd. He was bred by Armour. This company desire to reduce their herd just a little and will sell a few very choice young cows and heifers. There are a number of sows that should be mentioned



The accompanying illustration is from a photo of a group of R. J. Linscott's fine Jerseys. The Linscott herd, which is located at Holton, Kan., is the oldest and largest herd in the State. This herd was established by Mr. Linscott's father more than thirty years ago. The herd generally numbers around 100 head, but during the past year Mr. Linscott has brought a great many cattle from his old home in Vermont and has sold and shipped out almost 200 head. The present herd bulls are Imp. Oklands Sultan 78528 and Eminence Cornett 79462, sired by Eminence 2d, one of the greatest bulls of the breed, 54 of his calves having averaged \$777.75 at public auctions within the

here but space will not permit. In the future we will have more to say of this great herd.

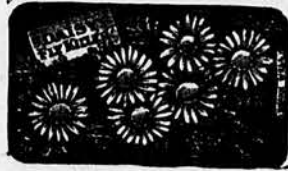
The Schmitt Herefords and Percherons.—John Schmitt & Sons of Tipton, Kan., own the old Woodbury herd of Hereford cattle which comprises over 50 head. They bought the entire herd last spring and it is one of the big herds of the State as well as one of the best know herds of the West. H. L. Woodbury of Cawker City, Kan., built this herd at a big expense and it was always considered as one of the very best herds in the country. In the herd at the present time are eight young bulls, all of serviceable age which will be priced right. The herd bull, Saint Weston 286312 by Weston Stamp 16th and out of Selma 133174 and bred by Cornish & Patten was a wonderful producer and has done much for this herd. The herd is strong in the blood of old Lamplighter and is made up of a wonderful lot of grand matrons that cost Mr. Woodbury good money. The herd is now in the best of hands as Mr. Schmitt and his sons are the best of stock men and practical cattle men. Mr. Schmitt came to Mitchell county from Germany in 1883 and with nothing but a determination to win and an honorable straightforward way of doing business. He has made good and today is one of Mitchell county's well-to-do farmers. He has a fine farm and it is well improved. He is also a lover of Percheron horses and has a number of good ones and is in the market for several more. He will also buy a good herd bull this fall or winter. We were entertained at the Schmitt farm recently in a very pleasant manner. The writer is glad to know such good people.

Rogers Herefords and Berkshires.—W. B. & J. M. Rogers, whose fine stock farm is but a few miles north of Beloit, Kan., own one of the best little herds of Hereford cattle in the north-central part of Kansas. While it is not a big herd in point of numbers it is nevertheless big in individuality and breeding. The herd bull, Richard 26534 was got by Armour's Cavalier 173405, he by imported majestic that Mr. Armour paid \$5,000 for in England. His dam is a Sunny slope bred cow tracing through Wild Tom to Anxiety 4th. He is two years old and will make better than a ton bull with no bad luck. His sire weighed 2,100 pounds. All the young cows in this herd trace through Lamplighter to Anxiety 4th. The original stock in the herd was bred by and came direct from the great Cole & Cameron herd. This herd of Hereford cattle has a bright future before it for many reasons but to our mind the principal reason is because of the men who own it. In addition to breeding Hereford cattle this firm also have a nice herd of Berkshire hogs. A notable brood sow in their herd is Betsey 120489 sired by Speculation 80891 who was the sire of the Sensational 23,000 Berkshire. The dam of Betsey was Alice Majestic. Betsey has a litter of the last of June boars that are great. They are for sale and also a young Hereford bull. If you are interested in any kind of pure bred stock you will always be pleased with a visit to the Rogers farm which is only a short distance from Beloit.

ABERDEEN-ANGUS.
Harry Barnes Angus.—Kansas farmers occasionally tip their hats to farmers from other States but when they do so that other farmer is usually from Iowa. Harry Barnes, Beloit, Kan., is a young farmer who came to Mitchell county three years ago and settled on a farm. He brought with him a considerable reputation as a cattle feeder. His father had been a cattle feeder before him and Harry had commenced in the feed lot when eight years of age. Since that time he has attracted attention and has been offered a position by several colleges to conduct feeding experiments but has always figured that he could make more money feeding for himself than by holding down a job of that kind although the offer was certainly a compliment and very flattering. Such men as Mr. Barnes usually know the kind of cattle to select for the feed lot and it will be interesting to know that he has started a very fine herd of Aberdeen-Angus at his farm near Beloit. He was a heavy buyer in the Frank Cole dispersion sale at Beloit last winter and bought some good ones. His herd is very rich in the Black Bird and Black Diamond families. We will have more to say about the breeding later on.

Roy C. Birt's Doodles.—Mr. Roy C. Birt, Beloit, Kan., is the proprietor of one of the best herds of Aberdeen-Angus cattle in the West. It is true that it is not the largest and Mr. Birt does not claim that it is but from the point of individuality and breeding he certainly has something to be very proud of. Recently he journeyed to Kansas City where he attended the Aberdeen sale held

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In this sale he bought a very fine herd bull and also a cow which was added to his herd. He has a nice number of calves to his spring's raising and is getting to the front in fine shape. Mr. Birt is a young man with the grit that it takes to succeed in any undertaking of this kind and the conditions which surround his herd at the present time there is no doubt about his getting to the front in a very short time with this fine young Angus herd. We will have more to say about the breeding which contains and which is first class in another issue. He will be able to spare a few young calves this fall or early winter. His farm is about six miles north of Beloit, Kan.

PERCHERONS.
Granite Creek Stock Farm.—Probably the largest horse breeding establishment in the West is the one conducted at Granite Creek Stock Farm, Cawker City, Kan. M. A. Smith, Supt. Granite Creek Stock Farm is the property of Judge Clark Smith of Topeka, Kan., and M. A. Smith, who is his son, is the gentleman who is responsible for the present high standing among horse men in about every State in the Union. It is the home of 75 head of registered horses and a large per cent of them are Trotting bred. It is also the home of old Myron McHenry who is known to every lover of fast horses in the United States. He is hale and hearty, and we may be allowed the expression, and in fine breeding condition. Brilliant is a fine Percheron stallion by Casino which is in stud here. About twenty colts are to be found on this ideal horse farm this spring belonging to the firm.

Frank Cole's Prize Percherons.—A young man who has attracted to himself all kinds of fame in Mitchell county and elsewhere because of the high class of his Percherons is Frank A. Cole of Barnard, Kan. While a resident in Lincoln county Mr. Cole is a resident of Mitchell county and Mitchell county is mighty proud of him and his famous Percherons. In this herd are three International prize winners that won firsts at that long been considered the battle ground for draft horses. Macduff 4556 in the Percheron Society of America and 41257 in the Percheron Registry Company was first in class at the International in 1896. The same year he won first at five of the State Fairs and six gold medals offered by the registry companies. Lora C. 40155 in the Percheron Registry Company book and 32988 in the American Percheron Horse Breeders Association is seven years old and won first and sweepstakes at the International in 1905. Cora C. 40816 in the Percheron Registry Company's herd book is six years old and won first in class at the International in 1905. Mr. Frank Cole is a young man it is a pleasure to know. His Percherons are among the very best in the whole country and his Mitchell county farm is destined to become famous because of the great Percheron show stallions and mares he is bringing to it.

The McKinnis Percherons.—One of Mitchell county's foremost young Percheron breeders is Ralph G. McKinnis. His fine farm of 320 acres is located half way between Beloit and Glen Elder, right in the richest farming section of the Solomon Valley. Mr. McKinnis is a close student in all that pertains to farming and stock raising and is making a decided success of both. Jasque W. 41659 by Tiratoy 57125 was imported in dam by Mr. E. N. Woodbury. His dam is the great mare Rissette owned by Mr. Woodbury and mentioned in our notice of his Percherons in this article. Rissette, as has been stated, was imported and her sire was Val-an-vent who was a half brother to Calico and Casino, two noteworthy imported Percheron stallions. Last winter Mr. McKinnis bought several registered mares, one of them being Dana who is a half sister to the fine mare bought in the Robinson sale by the Agricultural College. Mr. McKinnis is getting nicely started in the Percheron business and intends making his fine farm the home of some of the best of the breed. Mr. McKinnis is a Mitchell county product and his father and mother were pioneers in this county. The writer, in company with Mr. E. C. Logan, enjoyed a very pleasant visit including a nice dinner with Mr. and Mrs. McKinnis at their nice country home recently.

C. J. Johnson's Percherons.—C. J. Johnson of Solomon Rapids, Kan., is getting nicely started in the registered Percheron horse business. His imported Percheron stallion, Rabelais 42529 sired by Cosaque he by Theudis he by Besique and he by Brilliant 34 is one of the really well bred Percheron stallions of the West. His sire Cosaque was sired by Theudis who was also sire of Calico and Casino who are pronounced by competent judges to be the best imported Percherons ever brought to America. We were shown a beautiful American bred Percheron stallion and some other young stock. Mr. Johnson is a good farmer and has lived at Solomon Rapids 23 years. He is in the merchandise business there the firm of Johnson & Thierolf conducting a very extensive business. In addition to their big general store they also conduct a lumber and coal yard and own the principal elevator. Mr. Johnson came to Solomon Rapids when there was nothing there but the railroad station. While it is not very large now it is nevertheless an important trading point and is surrounded by a very rich agricultural country. Mr. Johnson owns 650 acres of land near Solomon Rapids and is one of the well-to-do and influential residents of Mitchell county.

E. N. Woodbury's Percherons.—One of the best known Percheron breeders in Mitchell county is E. N. Woodbury of Cawker City, Kan. Mr. Woodbury has been breeding registered Percherons for over 10 years. His foundation stock came from Watson, Wood Bros. & Kelly's barns at Lincoln, Neb. Imported Vidocque 40408 is one of the great breeding horses of the country. He is the sire of a horse colt whose dam is Imported Rissette that will be heard from at some of the fairs this fall. Rissette 51115 is a great brood mare, being the dam of Ralph G. McKinnis's popular stallion Jove W. 41659. She is also the dam of Rissette 24 owned by G. G. Harrison of Jewell, Kan. Rissette is now eight years old and has weighed over a ton. She is also the dam of a yearling filly now owned by Mr. Woodbury that is one of the best to be found anywhere. Rissette is certainly a great brood mare and while she is only one of the splendid specimens to be found in Mr. Woodbury's herd she is prized as highly if not higher than anything on the farm. Mr. Woodbury is, in addition to being a very pleasant gentleman to meet, a very successful farmer and stock raiser. As a breeder of Percheron horses he is getting to be well known all over the country. He usually has something

to sell and later on we will give this herd a more extended notice. His fine farm adjoins Cawker City, Kan.

OLDENBURGS.
Wear & Sons' German Coachers.—Joseph Wear & Sons, Barnard, Kan., are breeders of Oldenburg or German Coach horses. The Joseph Wear ranch is well known all over the country and is famous because of the immense live stock business and farming carried on there. Joseph Wear is also one of the pioneers of Mitchell county and came to the county with nothing but his two hands and that determination to win that has been the stock in trade of practically every man who has succeeded. Today he owns 5,000 acres of land in a body besides 800 acres in Alabama. His Mitchell county farm is operated by himself and sons and over 2,000 acres of it are in cultivation. About 800 cattle are kept on this ranch and about 1,000 hogs at the present time. When we were there recently 45 horses were in use in the fields. James Wear, the eldest son, looks after the Coach horses and is the superintendent of the horse department in the Mitchell county fair. He is a young man of sterling character and is very popular with the breeders of fine stock of all kinds all over the country. He is practically in charge of his father's immense farm and a capable young man whom it is a pleasure to meet. There are one or two International prize winners in their herd of German Coach horses and in a later issue we will give the breeding and winnings of this German Coach herd. They have one tried stallion for sale.

POLAND CHINAS.
Laban Creek Poland Chinas.—Laban Creek Stock Farm is the home of the herd of Poland Chinas that bears its name. It is also the home of three or four great herd boars that have helped in no small way to make the herd what it is, one of the best in the country. Herd boars in use are Kansas Medium, a line bred First Quality boar. First Quality was a noted herd boar in Thompson Bros.' herd at Marysville, Kan., that won at the Nebraska State Fair several times. Kansas Medium is himself a show boar. Conformation by E. L. 2d is another boar with a right to go out and win in warm company. Dude, who was sired by Sunflower Perfection the great boar that sired the first prize winner at Nebraska State Fair two years ago, is also entitled to consideration in no small manner. Longfellow by Prince Henry is a big type boar who will weigh around 800 in just ordinary flesh. He was sired by Prince Henry. But the real attractions are the Prince Henry sows in this herd. Prince Henry, without a doubt was one of the best sires ever owned in Mitchell county and his ability as a sire of sows was wonderful. Logan & Gregory are fortunate in their possession of this string of Prince Henry sows. They have 100 extra good spring pigs and will price them at private treaty. Nothing but the best will be offered. Write Logan & Gregory, Beloit, Kan., for prices and descriptions. They will also price a few yearling sows bred for October farrow to either boar.

W. H. Sales' Poland Chinas.—A young breeder of Poland Chinas in Mitchell county who is stepping to the front with a nice up-to-date herd of Poland Chinas is W. H. Sales of Simpson, Kan. He is not claiming for his Poland Chinas extreme size or that they are "hot bloods" to the extent that their usefulness has been sacrificed to popular pedigrees but does claim that he has the farmer's type of Poland Chinas. They are of a medium type that is very popular now over the country. They have all the quick maturing qualities combined with plenty of size. His herd boar, Glasco Chief 2d is one of the kind just mentioned. He is a good producer of big even litters and is very satisfactory to Mr. Sales. He was sired by old Glasco Chief and his dam was by Star Perfection a noteworthy sire well known around Simpson. He has for sale 60 pigs of this spring's farrow. He will not hold a sale either this fall or winter and is not reserving anything for a sale but is offering the choice from this season's crop at prices that will be found reasonable. This is indeed a splendid herd and the writer is convinced that anyone in need of a boar or a few gilts this fall would be well pleased with what Mr. Sales has to offer. His farm is about five miles straight south of Simpson, Kan. We will have more to say about this herd later.

DUROC JERSEYS.
Pagett's Alfalfa Duroc Jerseys.—Pearl H. Pagett's Alfalfa Stock Farm, Beloit, Kan., is the home of one of the big and well established herds of Duroc Jerseys in the country. No breeder of that popular breed has striven harder to build up a strictly fancy herd of Duroc Jerseys than has Mr. Pagett. That he has succeeded is conceded by every one who has seen his herd and is in a position to know. This season's crop of spring pigs number around 150 and are doing fine. But the attraction now in this herd is the 60 Pearl's Golden Rule fall gilts. These gilts are from his famous sows, the collecting of which cost Mr. Pagett lots of money. They were all sired by Pearl's Golden Rule that has been told of in these columns so often. Mr. Pagett has claimed October 27 as the date of his boar sale. He is now offering a few of these fall gilts at private sale. In fact he is loaded up heavy with hogs and would sell either spring boars or gilts or fall gilts or tried sows. He raises them to sell and if you are in the market you will find his prices right and the breeding and individuality the best.

Carter's Golden Rule Durocs.—Leon Carter, Asherville, Kan., is proprietor of the Golden Rule Stock Farm at that place which is the home of a nice little herd of Duroc Jerseys. He has about 40 pigs of spring farrow that were sired by Golden Rule Special by Pearl's Golden Rule. He is a young boar of exceptionally fine breeding qualities and his get are among the best we have seen this season. His dam is one of the great sows in Pearl H. Pagett's herd and was sired by Kant Be Beat and her dam was by Ohio Chief. Mr. Carter is another pioneer of Mitchell county and has the good will of all those who have associated with him either in a business way or as a neighbor. Mr. Carter started breeding Durocs five years ago and attained considerable notice because of the good breeding animals which were selected from his herd by breeders of note. While his herd is not very big in point of numbers it is one of the good ones. If you are in the market for a good boar or a few gilts call and see what Mr. Carter has. They are for sale and the prices will be found right, quality considered. Mr. Carter believes that nothing but the best should be reserved and offered for breeding purposes and consequently will not offer cheap pigs because they are inferior. He will cull closely and ask a fair price for

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what he has left that is worthy a place as a herd boar. His farm adjoins town.

HAMPSHIRE HOGS.

Doyle's Hampshire Hogs.—A. B. Doyle, Beloit, Kan., breeds Hampshire swine and at present has pigs of this spring's farrow for sale. Mr. Doyle has been breeding them for a number of years and has found them very profitable. At the head of his herd is Duke of Longview 2201 by Stone's Duke 636, dam Fayette's Queen. 624 by Fayette Chief 451. His sire was by Gen. Munson 500. The Hampshire breeders have an association which record their eligible animals and E. G. Stone is its secretary with headquarters at Armstrong, Ill. Mr. Doyle can furnish the papers on some of

his young stock but not on all of it. All of it is pure bred but the fact that one sow can not be recorded because of carelessness on the part of the parties from whom she was purchased makes it impossible to record some of his spring stuff although it is just as good as that that can be recorded. He will make a lower price on that which is not eligible to record than on that which is. If interested write A. B. Doyle, Beloit, Kan.

Wrench's O. I. C. Swine.—One of the pioneers of Mitchell county is T. C. Wrench, Beloit, Kan. Mr. Wrench is a breeder of O. I. C. hogs and is making a decided success of the business. His herd boar, Bill Taft 24658 by Kerr Frank, dam Kerr Bess, is one of the best sires of the breed the

Mitchell County Breeders' Association

J. F. HOWARD, President.

O. B. KERN, Secretary.

Nothing but first class animals offered for sale for breeding purposes.

MITCHELL COUNTY FAIR, SEPT. 28, 29, 30, OCT. 1, 1909.

E. C. LOGAN, President.

W. S. GABEL, Secretary.

SHORTHORN CATTLE.

SHORTHORN CATTLE.—50 head registered cattle. Herd headed by Royal Goods 28825, by Select Goods, by Choice Goods. Young bulls, ready for service, for sale. MEALL BROS., Cawker City, Kan.

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

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

GLENDAL SHORTHORNS.—For sale: 7 yearling Select Goods heifers. Also a few bulls of same age. Write for descriptions and prices. FRANK P. COOKE, Beloit, Kan.

DUKE OF DUNDEE 285352, by Archer 205740, dam by Gallant Knight, is at the head of my herd. 6 cows by Rose Duke and some by Scotchman. Inspection invited. CHAS. S. MCCLARY, Beloit, Kan.

A PIONEER HERD OF SHORTHORNS.—Gloster's Model 287840 by Scottish Gloster 286978. 3 yearling bulls and a few bred cows for sale. Write for prices. ELMER C. CREITZ, Beloit, Kan.

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

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

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

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

HEREFORD CATTLE.

A FEW HEREFORD bull calves by Richard 269838 and out of dams tracing through Lamplighter to Anxiety 4th priced later. Berkshire boars, spring farrow, for sale. W. B. & J. M. ROGERS, Beloit, Kan.

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

100 HEAD OF HEREFORDS. The home of Castor 269475, the winner in every big show he was ever in. A few choice young heifers and cows for sale. F. L. BROWN & CO., Sylvan Grove, Kan.

ANGUS CATTLE.

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

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

writer has seen in a long time. He has a nice lot of spring pigs to his credit this season and is a very satisfactory herd boar. The herd is rich in the breeding that made Dr. Kerr's herd famous at Independence, Mo. Some trace to the famous Big Mary family and others to other noted families. Mr. Wrench is going to offer boars and gilts at private sale and will price them right. He is not going to offer anything that is not first class as a breeding animal and those in the market for O. I. C. hogs should write him at once for prices and descriptions.

LIVE STOCK AUCTIONEERS.

Col. F. L. Smith, Beloit, Kan., is an auctioneer of ability and like his friend and neighbor auctioneer, Col. Van Amburg, is a booster all the time for the fine herds of pure bred stock in Mitchell county. If any one is more ready to say a good word for these men engaged in the breeding of pure bred farm animals than Colonel Smith the writer has never met them. His life has been spent on a farm where he has made good and his experience there has taught him many things among which is the value of well bred stock. He has a wide acquaintance and among the best breeders in the Northwest. He has been engaged in the auctioneer business for a number of years and is making a great success of it. He and Colonel Van are the best of friends and always work to one another's advantage in the conducting of sales. They never allow two sales to conflict if it can possibly be avoided. They are both well known and liked because of the fact that they are known to be square with their clients. They are a strong team when working together and often do their best work when working together on the same sale.

Col. H. H. Van Amburg, Beloit, Kan., is one of the auctioneers who is a booster for the good herds of pure bred stock owned by the up-to-date breeders in his own county and for the breeding of pure bred animals in general. He is an auctioneer of ability and conducts his share of the public sales held in this county. In addition to the public sale business he buys and sells horses and mules and has a sales stable in Beloit. He is also interested in an auto garage in Beloit and is usually a pretty busy man either in one vocation or the other. He is well posted on values because of his experience every day as a buyer. Like his friend and co-worker, Col. F. L. Smith, he has the advantage of a wide ac-

PERCHERON HORSES.

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

REGISTERED PERCHERON HORSES.—In stud: Imported Rabelais 42529 by Co-saque by Theudis, who sired Calipso and Casino. Visitors welcome. C. J. JOHNSON, Solomon Rapids, Kan.

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

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

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

COACH HORSES.

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

POLAND CHINAS.

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

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

DUROC JERSEYS.

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

ALFALFA STOCK FARM.

The home of the best in Durroc Jerseys. Choice boars, fall sows, in fact most anything you want. PEARL H. PAGETT, Beloit, Kan.

HAMPSHIRE.

HAMPSHIRE HOGS.

40 spring pigs, both sexes, for sale. Write for prices. A. B. DOYLE, Beloit, Kan.

OHIO IMPROVED CHESTERS.

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

AUCTIONEERS.

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

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

quaintance among the farmers and breeders of this and adjoining counties and is also well liked by those who know him. When employing an auctioneer remember Colonel Van Amburg.

BERKSHIRES

BAYER'S BERKSHIRES.—Herd headed by Field Marshall, first at Sedalia and second at St. Joseph, Mo., in junior yearling class, 1906; assisted by Lee's Masterpiece. Young boars ready for service and bred gilts for sale. J. T. BAYER, R. R. 5, Yates Center, Kan.

MAPLE HEIGHTS HERD BERKSHIRES. A fine bunch of long bodied, smooth, spring pigs ready for shipment, also a few show yard pigs. Extra gilts and boars. Write or come and see them. J. M. NIELSON, Marysville, Kansas.

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

FALL BERKSHIRE BOARS.—Good individuals, sired by General Premier 93894, and out of dams rich in the blood of Baron Lee 4th, Black Robinhood, Royal Empress, Silver Tips 90th, etc. Low prices considering quality. DR. G. A. TULL, Clay Center, Kan.

BERKSHIRES—OVER 250 HEAD To select from. Choice boars and females of various ages. Baron Duke 75000 and Masterpiece 77000. Spring pigs for sale. We guarantee satisfaction. Write LEON A. WAITE, Winfield, Kan.

SUTTON BERKSHIRES. 10 fancy show sows \$75 to \$100; 100 fancy sows and gilts at \$35 to \$50; 10 good gilts bred to our show boars. 3 Show Boars 3. Fancy enough to head the best herd in the land. The above are all sired by or bred to Berryton Duke Jr. 77341, Lord Baron 2d 88899 and Sunnyside Royal 86065. SUTTON FARM, Lawrence, Kan.

BERKSHIRES

BRAEBURN BERKSHIRES

Young pigs, high class in quality and breeding. One yearling boar cheap. H. B. COWLES, Topeka, Kan.

JERSEY CATTLE

Linscott Jersey Cattle

Established 1878. Registered in A. J. C. C. Any animal for sale. R. J. LINSCHOTT, HOLTON, KANSAS.

JERSEY BULLS.—My herd bull, Jewells Decanter by Decanter by Diploma, sire of sweepstakes cow at World's Fair. He is gentle as a lamb and will be priced low—also 3 young bulls with pedigrees. Must be sold quick. MRS. L. C. FRENCH, Marion, Kan.

ANGUS CATTLE

ANGUS BULLS.

Sons of Champion Ito (our show bull) a son of Imp. Prince Ito—cost \$3,100—and out of the \$2,500 champion cow, Queen Mother 7th of Drumfergus, and RUTGER MIKADO 82395, whose get took first prize at the Kansas State Fair last year, and from the best families of the breed. Also a number of females open or bred and some with calves at foot.

SIRROPSHIRE SHEEP.

A few high class Canadian bred ewes with lambs at foot, sired by our imported English show ram. The best you can buy anywhere. Write us your wants or come and see us. SUTTON FARM, Lawrence, Kansas.

HOLSTEIN CATTLE

EAST SIDE DAIRY HOLSTEINS. Offers choice young bulls, cows and heifers, breeding and individually of the best. Several bulls for fall service. F. J. SEARLE, Prop., Oskaloosa, Kansas.

BRAEBURN HOLSTEINS.

Bull calves from dams yielding 10,000 pounds of milk in a year, and upward. H. B. COWLES, Topeka, Kan.

HOLSTEINS AND JERSEYS.

Choice young stock, heavy milking strain. Some extra good bull calves, either bred. HUGHES & JONES, Topeka, Kan.

HEREFORD CATTLE

SPRING CREEK HEREFORDS. 100 head in herd. Prairie Donald 3d by Beau Donald 7th in service. Females represent Anxiety 4th, Lord Wilton, Garfield and other families. Few good bulls 7 to 8 months old at easy prices. Write or come. T. A. WALLACE, Barnes, Kan.

HEREFORD BULL FOR SALE. 17 months old, grandson of Imp. Lord Saxon, dam by Stonemason 13th, weighs 1,000 lbs., nicely marked, good top and under line, droop horn and a fine individual in every respect. Will price reasonable. J. W. TOLMAN, Hope, Kansas.

HEREFORD BULLS FOR SALE. 12 head sired by Onward 18th and Majestic Baron by Imp. Majestic, ranging in age from 12 to 26 months. All good ones. At least four of them herd headers. Very low prices considering quality. Will also spare few females. S. W. TILLEY, Irving, Kansas.

Beau Brummel 10th 167719 Modern Herefords. Herd bulls Beau Brummel 10th 167719, Beau Beauty 192235 and Protocol 2d 91715. Robert H. Hazlett, Hazford Place, Eldorado, Kansas.

SHORTHORN CATTLE

Evergreen Home Farm. Milking Shorthorn Cattle, bred Hornless. Berkshire Hogs, Oxford Down Sheep. Bourbon Red Turkeys. LATIROP, MISSOURI.

CEDAR BLUFF SHORTHORNS. 100 head headed by Double Standard Orange Cup X5565 (253226). SHAW BROS., Glade Kan.. (Rooks County).

OHIO IMPROVED CHESTERS

60 O. I. C. PIGS NOW READY. Big growthy and representatives of the strains that have made the breed famous. Bargain prices for thirty days. A. MOSSE, Leavenworth, Kansas.

THE BROWN FARM. For sale—O. I. C. females, 12 tried sows, bred for early fall farrow, 20 fall gilts. Pigs both sexes. 2 registered Jersey cows, 2 bull calves and 2 registered Standard bred Silkwood stallions. T. O. BROWN, Reading, Kan.

SHORTHORN CATTLE

N. S. LEUZLER, Breeder of the best in Shorthorn. Almene (Norton Co.) Kan.

GREENDALE STOCK FARM. 25 YOUNG BULLS by Imp. Ardath Mystery and Best of All for sale at low rock prices. Can also offer some good Berkshire swine and Shropshire rams. Correspondence solicited. COL. ED. GREEN, Prop., Florence, Kansas.

RENO HERD SHORT. HORN CATTLE

Bulls in service, Forest Knight 226084 and Victor Archer 264156. Breeding stock for sale. Stewart & Downs, Hutchinson, Kan.

FOR SALE.

10 choice young bulls from 8 to 13 months old, part straight Scotch. Choice yearling and short two-year-old heifers. Good colors, bred right, priced right. C. W. TAYLOR, Pearl, Kan.

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

Prospect Farm Shorthorns

The oldest Shorthorn breeders in Kansas. The largest herd of Cruickshanks in Kansas. Herd headed by Violet Prince 145647 and Orange Commander 220590. Young stock of both sexes and some cows for sale. Quality and prices right.

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

JEWEL SHORTHORNS

A young herd of up-to-date breeding. Also Percheron and Standard bred horses. In stud: the Percheron stallion Marquis de Wierre (imp.). Also the Standard bred stallion, Red Seth 31185. Farm adjoins town. Come and see us.

W. T. LOWE, Jewell, Kansas.

Spring Hill Shorthorns

300 Head Scotch and Bates Pedigrees

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

20 Shorthorn Cows and Heifers

All are bred or have calf at side. 3 GOOD YOUNG BULLS that I am sure will suit. Everything nicely bred and in good condition. Moderate prices. D. H. FORBES & SONS, Topeka, Kan.

R. F. D. No. 8. Bell Phone 31.

POLLED DURHAM CATTLE

POLLED DURHAMS. Young bulls. Cows and heifers bred to Roan Hero, the Double Standard champion. Prices reasonable. Write for them. C. J. WOODS, Chiles, Kansas.

BELVEDERE X2712--195058

son of the \$1,500 Grand Victor X1685 150364 heads my herd of Double Standard Polled Durhams. A few extra good blocky, thick-fleshed young bulls for sale. Inspection invited. Farm adjoins town. D. C. VAN NICE, Richland, Kansas.

GALLOWAY CATTLE

SMOKY HILL RANCH Galloway herd, headed by Pat Ryan of Red Cloud 20038, Starlight 2d of Tarbreoch 24473 and Valarius 29088. Bulls and heifers for sale from my herd of 180 registered Galloways. E. J. GUILBERT, Gill, Kansas.

RED POLLED CATTLE

COBURN HERD OF RED POLLS. Choice young stock of both sexes for sale; also a few cows. GEO. GROENMILLER & SON, Pomona, Kansas.

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

ALFALFA VALLEY RED POLLS. 8 young bulls 12 to 16 months old and a few heifers. Can ship over main lines Mo. Pacific and Union Pacific R. R. Priced low. Write or come. OTTO YOUNG, Ness County, Kansas.

RED POLLED BULLS.

Choice bulls, all ages. Write or call. H. L. PELLETT, Eudora, Kansas.