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The Production of High Yielding Corn

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One of the most common fallacies of those not thoroughly conversant with the nature of well bred or improved seed is the expectation that a large crop can be secured by its use on worn out land with insufficient cultivation. Nothing could be further from the truth, and no mistaken belief could be more harmful to the pure seed interests. There are four essentials absolutely necessary in the production of an unusually large yield of any kind of crop, namely, good soil, good cultivation, good seed and a good season. I once heard a lecturer say that each of these counted 25 per cent for the crop, while the absence of any one counted 50 per cent against it, and I am not sure but the statement is largely true. The last mentioned element is largely beyond the farmer's control, except on irrigated land, while the first three are almost entirely within its control, so we must lay the low average yield of each and all of our farm crops partly to farm conditions and partly to ignorance and to the rental system.

The rotation of crops, the growing of legumes, the application of manure are subjects that can not be too much emphasized, but I wish to deal for the present with the production of high yielding seed, and since our corn is our most important crop in point of value of the product I shall confine myself largely to that.

One of the mysteries of nature is the inherent difference in objects outwardly the same. In a bunch of heifers looking much alike to any but the trained observer, some one may have the dormant qualities that develop into a record breaker, while another may not pay for her keep. In a bunch of gilts looking alike to, every one, one may raise litters of 10 pigs, while another will raise only two. The same is true of corn. Let a breeder select a number, say 50, of the best ears he may be able to choose as nearly alike as possible, and some one ear will have the inherent power to produce more than any other, while some others will be as noticeably unproductive. The best outyielding, the poorest sometimes two, three or even four fold. Why this is so no one can say, but though it may be doubted by those who have never tried the plan of ear to ear to row planting, its truth has been proven time and again by every practical corn breeder, not necessarily every corn grower. The discovery of this truth or law marks the beginning of scientific breeding for increased yield, not only for corn but for every cereal. The most common method of planting corn to test the comparative yielding power of different ears is to plant a portion of each ear in a row separately, leaving a portion of the ear unshelled, which is tagged to correspond with the number of the row. Thus, ear No. 1 will be planted in row No. 1, ear No. 10 in row No. 10, etc., the tagged unshelled portion being stored in a safe place for another year.

The product of each row is husked and weighed separately, and the weights carefully recorded. Then another year the remaining portion of the best yielding ears is planted in an isolated plot, either together or better the highest planted side by side with the second highest, and one of them

detasseled. This produces pedigreed, high yielding corn, which is first planted in a multiplying plot by itself, and from there used for seed for a general crop. This method is good and produces good results, but it would be more nearly fair if a perfect stand in every row could be secured, which is not always the case, because of mold, mice or an unfavorable spell of weather. To remedy this some breeders plant each ear in hills with say five grains in a hill, and after a while remove all but the three most vigorous stalks, the thinning being done before the corn suffers from crowding. The numbering of ears and rows being the same as in the first plan. This gives a fairer test because the stand is necessarily much more uniform.

These two methods are probably the ones used by most Kansas corn breeders, and for this reason are of more interest to the general public, although there are many others deeply interesting to those who have

been aroused to the wonders of plant breeding, its excitements, pleasures and disappointments.

Of the progeny of the highest yielding ear or row, each ear will not prove equally as high yielding, but by selecting the test plot ears from the highest yielding rows, when planted separately year after year the general average yield is greatly improved, principally by the elimination of the extremely low yielders. The highest yielder of the first test plot may be as high as in any succeeding year, but the lowest yielder of the first year is generally much lower than those of after years, because the progeny of low yielding rows is condemned at once. One of the strongest laws of heredity is reversion, and when an ear of corn has a high yielding ancestry for five or six generations, the proportion of the progeny that revert to the remote low yielding ancestors is comparatively small. From a practical standpoint, what does this mean to a farmer who is in-

terested in bushels, rather than theory? It means that on good land, with good cultivation, in a good season, the high bred, high yielding corn will produce from 5 to 20 bushels per acre more than ordinary corn given the same care and attention, and with current prices this means from \$3.00 to \$12.00 an acre of almost clear gain. But as I said in the beginning, no man must expect good results if he plants high yielding seed on poor ground, and gives it poor cultivation. Not only will he be doomed to disappointment, but he will be doing harm to an industry which, although yet in its infancy, has produced remarkable results, and will in the future do much more for the upbuilding of the state and nation.

Spring Wheat.

I sent you samples of my wheat field of 15 acres. This wheat was sowed on September 15 and is considered the best piece in this neighborhood. Farmers here are badly worked up over the prospect, hundreds of acres are killed here in my judgment. Now this field was half in millet and half in wheat last year. When the wheat was cut I plowed the entire field, plowing under the millet with the stubble. The wheat on the north half, where the millet was, is in better shape than the old wheat ground. I got these samples from all over the field.

What is your idea of this wheat? Will it pay to leave stand, or would you advise sowing in about one bushel of spring wheat to the acre this spring, or will it stand oats?—D. O. Comer, Havensville, Kan.

There seems to be a little life in some of the wheat in the sample which you sent in; most of it is evidently dead, at least the heart of the stool appears to be dried and contains no sap, and it does not seem probable that such wheat will start again. Evidently the rank growth last fall has had something to do with the killing of this wheat. I observe that the stools which show the most life are the smaller growth. You may have dug up the large rank stools in sending me the samples, and there may be enough of the smaller stools to make a stand of wheat on the better portions of the field. I would advise that you wait a little while and make another careful examination of the field as soon as it warms up a little and the frost goes out of the ground.

You might seed spring wheat in this field as you suggest, and if you decide to do this the earlier you seed the better, in fact I would not wait until spring to sow the wheat, but if the frost comes out and the ground gets dry enough within a week or two, sow the spring wheat.

I consider oats or barley more profitable crops than spring wheat, although your suggestion is that this land is too fertile to grow oats.

If the maggots trouble the root crops in your garden, sow the drill rows with soot after the seeds are covered. Onions suffer most perhaps, though radishes are also the victims of this pest.



Prosperity Producers,

And where you find one you find the other.

S I L O S and S I L A G E

A Strong Factor in Reducing the Cost of Milk and Butter

KANSAS FARMER USED AS A TEXT BOOK

Dean Thomas C. Blaisdell of the Michigan Agricultural College, writes that he has inaugurated a course of study in agricultural journalism and has selected twelve papers, published in different sections of the United States, for special study by his class. Each paper will be the subject of special consideration by the class for one week, though all will be used as text books throughout the entire course of twelve weeks. KANSAS FARMER has the distinction of being one of the papers that has been selected for this use and Dean Blaisdell writes that he believes that the course mapped out, together with the weekly examinations of the papers selected, will go very far toward giving the students an idea of the best in agricultural journalism.

The aim of this article is to call attention to the great value of silage in reducing the cost of milk and butter-fat production and increasing the profits from dairying; also some points to be considered in selecting a silo. It is well to give this matter a great deal of thought at once, for it will only be a few weeks until corn will be ready for the silo, and unless steps are taken at once it will be necessary to wait another year.

The digestive organs of animals that chew their cud are so formed as to require comparatively juicy and bulky food. The cow cannot thrive on dry food as well as the horse. The ideal food for the dairy cow is good pasture, but for a large part of the year green pasture is not available. The best substitute to furnish this succulent feed during this period are root crops and corn silage. Corn yields about twice as much dry matter per acre as do root crops. As root crops require much more labor, silage is by far the most economical for those where corn cannot be grown.

By placing corn in the silo, the stock as well as the grain is preserved for feeding purposes, and the whole corn plant becomes available. About 40 per cent of the feeding value of the corn plant is in the stalk, leaves and husks, and the other 60 per cent in the ear. Handling corn as commonly practiced, much of the 40 per cent is lost. As corn is cut for silo before lower leaves are dry, there is no waste. About twice the amount of dry matter can be stored in the form of silage as in the form of fodder. It has been determined that a cubic foot of hay in the mow contains about 4.3 pounds of dry matter; while a cubic foot of silage contains about 8.9 pounds of dry matter. A cubic foot of space in a silo being worth more than twice an equal space in a mow.

The feeding value of the corn crop is greatly increased, which is due to the fact that silage is very palatable and stock will eat a large amount of it. Its succulency, like grass, has a loosening effect upon the animal and keeps it in a healthy, vigorous condition.

Although hogs, beef cattle and sheep can be fed silage to a great advantage, its greatest value is for the feeding of dairy stock. As milk is made up of from 87 to 89 parts of water in every 100, it is evident that cows yielding a large supply of milk must consume a large amount of water, and that if a large supply of water is wanting, large yields of milk are impossible.

Experiments carried on by the Ohio Experiment Station, regarding silage for dairy feeding, showed that the average amount of water consumed by silage-fed cows per day was 93.9 pounds; while that consumed by grain-fed cows was only 69 pounds. Cows fed on the silage ration produced on an average 96.7 pounds of milk and 5.08 pounds of butter-fat for every 100 pounds of dry matter consumed; while cows fed the grain ration only averaged 81.3 pounds of milk and 3.9 pounds of butter-fat for every hundred pounds of dry matter consumed. The cost of feed per 100 pounds of milk was 68 cents with the silage ration, and \$1.05 with the grain ration. The cost of feed per pound of butter-fat was 13.1 cents with the silage ration and 22.1 cents with the grain ration. The average profit over cost of feed per silage-fed cow was \$5.86 per month, for grain-fed cows \$2.46.

The average daily silage ration was: 6.4 pounds mixed hay, 58 pounds silage, 2 pounds oil meal, 2 pounds bran.

The average daily grain ration was: 6.8 pounds mixed hay, 4.7 pounds corn stover, 2.5 pounds oil meal, 5 pounds corn meal, 6 pounds bran.

It is very evident that silage took the place of over one-half the grain in the ration, thereby cheapening the cost of production and also increasing the yield of milk and butter-fat. Silage is not only valuable for winter feeding, but is also probably the best feed to take the place of pasture during the dry periods of late summer and early fall.

Probably the best single crop for silage is corn, as no crop will yield the feed per acre that corn will. However, if combined with cow-peas or soy-beans the feeding value of the

silage is greatly increased. When corn is fully tasseled it contains less than one-fourth the amount of dry matter as when ears are fully glazed. In order to get the greatest feeding value and in order that the silage may keep well, corn should not be cut until kernels are well glazed and hard. If corn is allowed to become too ripe the silage does not settle well and the air will not be sufficiently excluded to prevent spoiling. Corn is most easily handled by cutting with a corn binder. If silage is to keep well the leaves and heavier parts must be thoroughly mixed and evenly distributed in the silo and well tamped, especially next to the wall. After filling, the upper few inches should be wet once and the whole surface tamped every day for a week to obtain a thin, compact layer of well-rotted silage which will exclude the air. The cost of filling the silo will vary from 40 cents to 70 cents per ton, depending upon the management of the work.

In selecting a silo, there are a great many factors to be taken into consideration. In order that the silage be perfectly preserved, the silo must be rigid and air tight. In order that the labor of feeding may be reduced to a minimum, the silo should be placed as near the feeding alley as is possible. Nothing but a round silo should be put up, as it is practically impossible to construct square or octagon silos with rigid walls, and as the silage does not settle well in the corners there will always be a large amount of spoiled silage.

In deciding upon the size of silo

which you wish, the first things to be taken into consideration are the number of cows to be fed and length of time you wish to feed them on silage. As silage should not constitute all the roughage fed, not more than 35 to 40 pounds per cow should be fed daily. The length of time which silage is to be fed will vary from 150 to 200 days—about from the middle of October until May 1. Each cow will then require 200 by 40 pounds or 8,000 pounds, or 4 tons of silage per year. A herd of 10 cows will require a silo holding 40 tons; a herd of 15 cows, 60 tons; a herd of 50 cows, 200 tons, etc.

Where young stock is to be fed, allowance should of course be made for them. After having determined the number of tons necessary, the table will show capacities of silos of different dimensions.

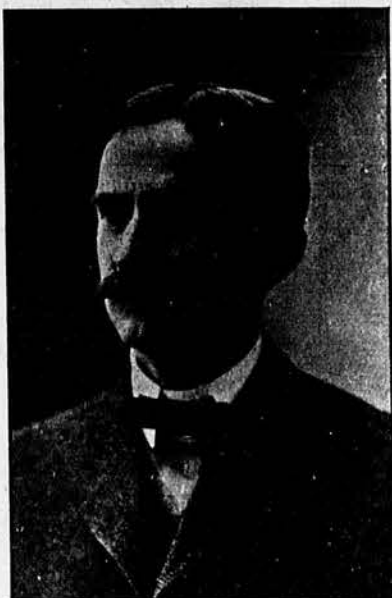
Table. Approximate capacity in tons of cylindrical silos of different diameters and depths, compiled from King's Table. (The diameter is shown at the top of the columns and depth at the left.)

For example, a silo 14 feet in diameter and 31 feet deep will hold 95.7 tons of silage.

INSIDE DIAMETER IN FEET.						
Feet	10	12	14	16	18	20
29	44.4	63.9	87.0	113.7	143.9	177.6
30	46.6	67.2	91.4	119.4	151.1	186.6
31	48.8	70.3	95.7	124.9	158.2	195.2
32	51.1	73.6	100.2	130.9	165.7	204.6
33	53.4	77.0	104.8	137.3	173.2	214.1
34	55.8	80.3	109.3	143.8	180.8	223.6
35	58.2	83.7	114.0	149.3	188.3	232.2
36	60.6	86.9	118.3	154.7	195.3	242.0
37	63.1	90.4	123.1	160.8	204.3	251.9
38	65.5	94.0	127.9	167.0	212.4	261.9
39	67.0	97.3	132.8	173.5	220.6	272.0
40	70.3	101.1	137.8	180.0	228.9	282.2

The New State Fair Secretary

An Experienced Man For the Big Fair at Topeka



H. L. Cook, the newly elected Secretary of the Kansas State Fair.

The directors of the Kansas State Fair Association at Topeka have made a long and careful search for a secretary of the big state-wide fair. They have realized to a man the responsibilities which rested upon their shoulders

and have been determined to secure a thoroughly competent man for this important position. Mr. H. L. Cook, who was elected secretary of the reorganized State Fair, comes to Kansas with a fund of practical experience in fair management which gives assurance of the success of the enterprise and of the wisdom of the board of directors in electing him. For nine years past he has been chairman of the board of directors of the Nebraska State Fair at Lincoln, and during this time he has been one of the most prominent factors in securing the remarkable success which has been attained by the people of our sister state in the maintenance of this great educational institution. Not only has Mr. Cook had a large experience in the active management of a successful fair, but he has a wide acquaintance with exhibitors and others over the country whose interest must be awakened in order that Topeka may have the kind of fair that the people of the state demand.

With his arrival in Topeka this week, immediate steps will be taken for the publication of the premium list and the erection of other needed buildings on the fair ground. Interest in the fair is already widespread, and many exhibitors have announced their intention of being present with their stock while a number of breed associations have voted money for special prizes.

Since silage spoils when exposed to the air, the silo should not be of too great diameter. The diameter should be of such size that at least 1½ inches should be fed off per day. If silage is fed in summer at least 3 inches should be fed off per day. It is probably not advisable to have the diameter greater than 20 feet, for if such is the case much of the silage is a great distance from the door and the labor of removal becomes too great. The deeper the silo, the greater the pressure. The closer the silage is pressed together, the more completely is air excluded and the better it will keep, also the greater the capacity of the silo. For example, a silo 40 feet deep and 20 feet in diameter will hold twice as much as one 25 feet deep and 20 feet in diameter. To be well proportioned, however, the depth should not exceed twice the diameter.

There are many different types of silos, concrete, cement block, plastered and stave. For those who are having their first experience with silos, we believe it would be best to procure a ready-made stave silo from a reliable manufacturer.—Blue Valley Bulletin.

Oats and Barley.

I would like a little advise on your experience with barley. How much shall I sow per acre? Is it as paying a crop as oats is likely to be? I am going to put out 160 acres in oats, about sixty in barley. Please advise me how much oats to sow per acre, and how much barley. Would you put the oats on the higher ground? Most of the ground is corn stalk ground. How would you seed the oats or barley? Would you burn the stalks?—H. R. Green, Lawrence, Kan.

I am mailing you bulletin No. 144 giving information on "Small Grains" including barley. I am preparing a bulletin on spring grains including barley. The average yield of Mansury barley at this Station for seven years is 34.7 bushels per acre, 48 pounds per bushel. Barley has yielded more pounds per acre than any other spring grain. As an average for five years the several best producing varieties of spring grain compare as follows: Barley 1656.6 pounds; oats, 1,409 pounds; emmer, 1061.2 pounds; Durum spring wheat 724.2 pounds, per acre respectively. It thus appears that barley is a better producer than oats and I consider it a hardier crop than oats, resisting cold better in the spring and drought and hot weather better later in the summer than oats. The six-rowed bearded barley has given the largest yields at this Station, the Mansury being the preferred variety while the Bonanza and common six-rowed Ellis have also made good yields. The Success Beardless is a fairly good producer. Our usual practice is to sow two bushels of seed barley per acre giving much the same treatment as required for preparing the seed-bed and planting oats.

Sow two to two and one-half bushels of oats per acre, depending somewhat upon the size of the oats. The Red Texas requires a little more seed per acre than the Kherson on account of the larger size of the grain of the Red Texas.

Oats require good soil to insure a good yield but on too fertile soil the oats are apt to lodge—more so than barley. On the other hand barley is not a good producer on poor soil but may give relatively large yields as oats under similar conditions.

I would advise to burn the stalks on the corn stalk land but to cut them up well with the corn stalk cutter and prepare the seed-bed by disking and harrowing. Prefer to plant with a single disk drill in such ground or the oats may be seeded broadcast and covered by disking and harrowing.

Do not plant corn in the young orchard. It takes up too much of the soil fertility and gives but little back. Cultivate the soil well and make a good seed-bed then sow red clover or cow-peas and turn it under in the fall. This gives the necessary cultivation and at the same time enriches the soil.

A Sewage Disposal Plant

By HARLEY BURGER,

University of Kansas.

This article is meant to be a description of a complete sewage-disposal plant for an isolated residence, such as a farm house. It is of the latest approved type. I have tried to make it so clear that any unskilled farmer or business man can oversee his plumber and workmen and have a good working, sanitary plant. The writer put in a plant on his father's farm almost like the one described here; although there are several improvements in these plans, which experience and later study showed to be important.

THE PLUMBING.

Have a licensed plumber if possible in any case have the best obtainable. Have a trap and ventilator for each fixture from which sewage is disposed into the drain. Have the ventilators pass up in as straight a line as possible to the roof, above all windows. The horizontal part of the iron soil pipe should continue out through the foundation wall at least five feet beyond the house, or if a well is near, the pipe should pass a good distance beyond the well. This soil pipe must have a grade or fall of at least one inch to four feet. All joints must be calked air tight.

HOUSE DRAIN.

To the end of the iron soil pipe connect 4-inch vitrified drain tile with bell and spigot joints. Close all joints with Portland cement mortar, made of one part cement and one part clean, sifted sand. Thoroughly mix the cement and sand dry, then wet the mixture as needed. To make a good joint, have the bottom of the trench shaped to fit the tile. See fig. 1. Ram into the space between the spigot and hub a small rope of oakum. Then press in the moist cement mortar around the spigot until the hub is filled with mortar. Swab out the inside of the tile with a mop, so as to remove all mortar which might have been pressed through the joint.

Continue this four inch drain tile at least 100 feet from the house if possible. This drain tile must be laid

tight box, of such capacity that it will retain each increment of sewage 24 hours. Its purpose is to allow dissolution of the solid matter and purification of the sewage by bacterial action. Its capacity should be the average flow of sewage from the house per day. The accompanying plans show a tank for a family of five, therefore of somewhat more than 500 gallons capacity. For each person in the family more than five add a foot to the length as indicated by the dotted lines in the illustrations. The siphon or "dosing" chamber is where the effluent is collected and held so that it will flood the drain only about every eight hours.

CONSTRUCTION.

The tank and its siphon chamber can be made of concrete, brick or stone. If concrete is used, the walls must be at least six inches thick. Make the excavation just equal to the outside dimensions in order to save material. Have the siphon properly set, then put in the floor so that it will be three feet below the bottom of the house drain. Build the forms on this floor just to fit the inside dimensions of the tank, as shown in the drawing. Have the house drain and the outlet pipe between tank and siphon chamber set in their proper position as indicated in the drawings. Ram the concrete in around the form with a light ram. A good mixture of concrete is one part of Portland cement, two parts of clean sand and four parts of broken stone or gravel. If the stone or gravel cannot be had, use cinders, or a mixture of one part cement to five parts sand. Make the forms strong but have them so they can be removed easily. When the concrete is hard, remove the forms and plaster the interior with cement mortar of one part cement to two parts clean sifted sand.

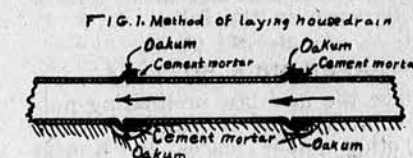
Let the walls of the tank extend above the surface of the ground a half foot and make a water-tight hoard cover. If the tank is in a conspicuous place, a concrete arch cover may be made with large manholes in both chambers. To make a cover for the hole, get a barrel-hoop a little larger than the hole. Lay it out on flat boards, fill this form with concrete rounding up to the center. A ring should be placed in the center to form a hand hold. The arch may be covered with sod and hidden from view.

The flushing siphon is to be secured from the manufacturers of automatic flushing appliances. Test the siphon after it is put in position in order to make sure that is in perfect order.

DISTRIBUTION SYSTEM.

To secure subsurface disposal of the effluent from the septic tank five inch agricultural open joint tiles are used. Lay them at a depth of eight to twelve inches. These lateral drains should be laid with a slight grade, of about two inches in 100 feet. If the

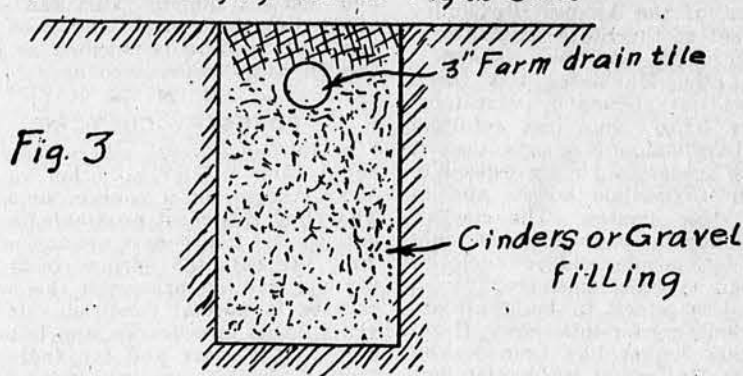
soil is loose the drain should be at least 200 feet long in compact soil 300 to 400 feet is better. The best method for tight soil is to dig the trench about four feet deep and fill it below the tile with three feet of sand or cinders. See Fig. 3. Then lay the tile on top of this. Two systems of lateral drains



are desirable. Have a gate at the division so that the sewage may be diverted into either system for a week at a time while the other rests.

Study the whole design thoroughly and there will be little trouble; although no system can be left to run itself. The tank must be cleaned every three or four years and the lateral drains must be taken up, cleaned and changed.

Method of Laying Drain in Tight Soils



Farm Homes.

I have just come in from planting a long row of sweet peas along the woven wire fence, and confess to being quite tired. It is no easy job to spade a trench six inches deep, mellow the soil in its bottom, scatter peas one inch apart, cover all with loose dirt and tramp it down. This is the only method, however, to bring satisfactory results during summer months. While resting, my thoughts go out to the thousands of country homes which the KANSAS FARMER visits every week (I'm glad to say, my own is one of them). In this age of progression, farmer folks are not lagging far behind the procession. When they do march to the front, their base is broad and foothold firm. A modern farm home wherein dwells its owner with wife, sons and daughters enjoying all that money can pay for in the way of up-to-date comforts and luxuries, surrounded by lowing herds, grunting pigs, frisky colts and cackling fowls, comes pretty near to being

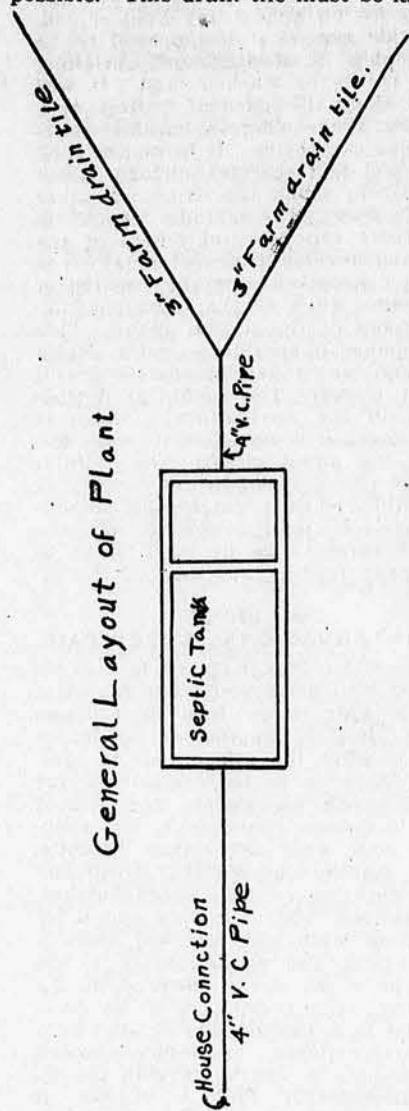
an earthly paradise. But where among us there is one such home there are a hundred and one far below this standard in the rising scale of progress; homes where the combined thoughts and efforts of every member of the household are needed to keep up with current expenses of taxes, insurance, and domestic and farming demands. These latter are in mind, just now. They are the rank and file of rural life and need to magnify their office. My little farm home may be as harmoniously artistic as my rich neighbors on the next section and my little flock of juveniles as happy.

During these uncertain March days, while every drop of blood is tingling to be doing something and that something out of doors, time is not wasted that is spent in planning decided improvements in immediate environments. I want to emphatically assert, right here, that every farm woman is entitled to a yard around the house from which pigs and chickens are absolutely excluded. Talk about the farm women in the asylums! Its enough to drive any flower lover to that abode, to spend time and hard earned nickles, to say nothing of back aching toll, in seeds and bulbs for flower beds only to have them devastated by marauding hens and pigs.

A nicely kept lawn is the very nicest adornment to any home—urban or rural. Let the flowers be at one side or even in the background. Too much sunshine is preferable to too much shade. Within doors simplicity, cleanliness and harmonious blending of colors are keynotes to artistic furnishings and do not depend on size of house or bulk of pocket book. You remember Emerson's remark about the whale and the minnow? Add to these, convenient arrangement of rooms and work tools, with interest of the housemother in mind, and "the dearest spot on earth" may readily materialize, midst humblest of conditions. It is all right to keep in mind future prosperity, a modern home like "my neighbors," and a big bank account but all wrong to pinch ourselves to the squealing point, going without desirable comforts that in the sweet bye and bye we may shine as they do now. Our children are forming tastes and habits now that enter into characters. Their home surroundings have more to do with the kind of men and women they will be than we are apt to think. Any school teacher will say that it is easy to decide the kind of homes their pupils come from. We owe to ourselves also, the best things

going. "If you do not take your 'good times' as you go along, John, you'll never get them," I once heard a sick man tell a young farmer. That is just what we need to bear in mind. If we are in normal condition our keenest happiness and greatest satisfaction will be found in making and keeping our individual farm homes in best possible condition, all the way along, bearing in mind the "then whose shall those things be."—Mrs. Annie Elizabeth Wells, Franklin county, Kan.

State Dairy Commissioner D. M. Wilson has prepared a bulletin of instructions for the benefit of those who desire to take the official cream buyers' examination. This is a real text book on cream and milk testing, and on the handling of dairy products. While prepared especially for those who wish to take this examination, this bulletin is of great value to farmers as well. The bulletin is published for free distribution and may be had by addressing the dairy commissioner at Manhattan.



with an even grade of at least one foot fall in 60 feet of horizontal length; in cold climates it must be laid below freezing. Change of direction should be made with especially curved pipes. The curve must not be sharp.

THE SEPTIC TANK.

A septic tank is essentially a water-



Kansas is perhaps the first state in the Union to have an automobile railroad. Receiver C. E. Morris of the Kansas Southern & Gulf, a nine-mile road running from Blaine to Westmoreland, has equipped the line with a steam automobile which he uses as a passenger train. He replaced the rubber tire wheels with regular car wheels. All passenger traffic is handled by the automobile. The old steam engine is now used only for freight traffic.

Kansas wheat has long been famous and it is no great surprise to learn that an order has just been received at the Agricultural College from the Transvaal Department of Agriculture in South Africa for 50 bushels of Turkey Red wheat for seed. Kansas corn, however, is what makes the state rich, and the Department of Agriculture of Queensland, Australia, has recently ordered from the same place 13 different varieties of Kansas corn for planting in that far off colony.

Following the lead of Kansas, our sister state on the east has turned its county poor farms over to the direction of its State Agricultural College. In doing this, however, Missouri has gone a step farther than Kansas. In Kansas only a part of the county farms are under the direction of the Agricultural College and these only in a co-operative way. Governor Hadley of Missouri has recently turned over the management of the 139 county farms in that state to Dean F. B. Mumford of the Agricultural College, for agricultural and experimental work.

Certain sections of Kansas are famous for their production of potatoes. This is an extremely profitable crop when properly grown and marketed, though there are relatively few farmers who make of it their principal farm crop. In order to induce the more general cultivation of potatoes, and for the purpose of a careful study of their diseases and insect enemies together with means of combatting both, the Horticultural Department of the Agricultural College plans to carry on some extensive experiments on a commercial basis in different sections of the state. The average crop of potatoes in European countries is 250 bushels per acre while the average in this country is only about 85 bushels. There is room for good work here.

New honor has come to Prof. R. J. Kinzer, of the Animal Husbandry department of the State Agricultural College, in his selection as expert judge at the Midwinter Fat Stock Show held at Brandon, Manitoba. Professor Kinzer has just returned from this show and reports that it was very successful, being especially strong in Clydesdale horses and in the fat steer classes. The city of Brandon has a population of only about 11,000 people, and yet their interest was so great that they raised \$60,000 with which to build an exposition building for this show. Heretofore this region has been known chiefly for its wheat production but it is now the center of a large and growing live stock interest. The show is reported to have been fully the equal of the Inter State Show at St. Joseph, Mo. in the number of animals on exhibition.

A recent trip of 50 or 60 miles through northern Shawnee and a part of Jackson counties showed that the spring sown alfalfa had suffered considerably by reason of the strenuous winter weather. The fields that were examined were well back from the Kansas river and located on the black, rich corn soil for which this section of the state is noted. It is splendid alfalfa land where the seed has been properly planted and the damage does not seem to have been due to the freezing and heaving so much as to the young crop being smothered out by the ice cap which covered the ground so long. Wheat in the section visited does not seem to have suffered materially although of course there is not a great deal of it. The fall sown alfalfa seemed to be in fine condition as well as that

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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

which has been standing for a longer period. Local farmers still continue to raise red clover though many of them express a firm belief in the qualities of their soil for alfalfa production. The opinion now seems to be general that hereafter alfalfa will be sown in the fall.

PAPER MILK BOTTLES.

Since the new law prohibiting public drinking cups in railroad trains and other public places in Kansas went into effect, a device has been put into general use by which the thirsty passenger may buy a paper drinking cup, by dropping a penny in the slot. Dairy and creamery men are following out the same idea and are endeavoring to find a satisfactory paper bottle for delivering cream and milk. Prof. J. C. Kendall of the dairy husbandry department of the Agricultural College has found that the most convenient form of paper package for individual customers is an oblong cylindrical can which is made by heavily paraffined paper and holds 1 quart. This can costs about 5-8 cents each and does not break or need to be washed as it is thrown away when once used.

FORESTRY CULTURE.

In Europe several states have devoted their official attention to forestry culture for a century or more. They find this most profitable in several ways. It prevents erosion of the land, prevents the springs from drying up, and so preserves the water courses in normal condition. It prevents floods in a degree, and is profitable to the state and the individual grower. In Germany, where the farms are generally small and the land valuable every available piece of ground is put to some use. Even permanent fences are taken away in order to make the fields larger and the farmers in many cases have set aside regular tracts for the growing of trees. Where this is done the work is overlooked by a state forester who is placed in charge of a group of farms in his district and controls the whole scientifically. The forester assists in planting, selecting trees, marking those which are to be cut, etc., and requires that two trees be planted for every one that is cut down. The purpose of this is to provide for loss that may occur through the trees dying or being thinned, and the result is that the final stand is equal to the original forest. The state forester of Kansas, working in connection with the Agricultural Experiment Station, plans a service that is very similar to that given in Germany. He will oversee the general work of selecting trees, preparatory cultivation of the soil, planting the trees and, when the time comes, their harvesting for railroad

there is a large acreage of the standard variety.

The soil for growing this crop should be fertile and free from weeds. If the soil should be weedy, an immense amount of labor is required to clean it, as broom corn makes a slow growth at the start. Good seed, with high germination qualities is essential, and yet is hard to obtain. About two quarts per acre is necessary. Experience teaches that the planting should be rather late, and that good weather is important at harvest time, as rain on the straw will cause it to turn red and reduce its market value about one-half. It is a somewhat expensive crop to handle, as there will be necessary a large outlay for machinery and farm help. In regions that are well adapted to culture, there is generally good profit in the business, but the secret of success lies in having sufficient knowledge of the business to produce the highest quality of brush, and dispose of it to advantage.

C. P. Hartley, who is a graduate of the Kansas Agricultural College, is the author of Bulletin No. 174, which gives full information on "Broom Corn Culture." This may be had by addressing the United States Department of Agriculture.

ABOUT SWEET CLOVER.

There are now about 50 species of sweet clover growing in Kansas and the value of this plant is still subject to debate among farmers. One farmer in Jackson county is credited with the statement that he intended to seed down his entire farm to this clover. Other farmers report that it is absolutely of no value as a stock feed and that live stock will not eat it because of the bitter taste unless they are starved to it. It is shown by analysis, however, that this plant is closely allied to alfalfa in its food elements and, if it can be developed in such a way that the alkaloid principle shall be removed or modified, it has apparently great possibilities ahead of it. It is a plant of persistent growth and will grow on almost any kind of soil. For this reason it has proved to be invaluable in seeding and enriching clay points or washed land. It will grow along the sides of a ditch or a railroad grade where apparently nothing else can thrive. It furnishes good bee food and secretes nitrogen from the air in much the same way that alfalfa does. The nodules formed on the roots are great enrichers of the soil and develop a bacterium which is of the same kind, or very nearly of the same kind, as that developed on the roots of the alfalfa plant. This fact makes it possible to grow alfalfa on land which has previously grown sweet clover. The botanical department of the Agricultural College is now engaged in an effort to cross fertilize the sweet clover and alfalfa plants with a possibility of developing a modified variety which shall possess the strong growing powers of the sweet clover with at least some of the good feeding qualities of the alfalfa.

AN INTERNATIONAL SHEEP FAIR.

There is a movement on foot to establish a permanent International Sheep Fair to be held in Chicago some time in September or immediately after the fair circuit is over. This show is to be exclusively for sheep, with all breeds represented and to include goats, collie and shepherd dogs, wool and mohair exhibits, wool grading and sorting, sheep and goat shearing contest, sheep butchering contest, sheep dipping and a lot of other "wrinkles" that will make it interesting and educational. It will not be a fat stock show, although feeding experiments will be conducted in a limited way by the agricultural colleges. It is not intended to compete in any sense with the International. In fact, a number of prominent directors of the International heartily endorse the affair.

In conjunction with this show will be held a combination sale for show, breeding and carload lots of sheep. The eastern breeders will find an outlet for their high class stock and also for their commercial sheep. The rangemen will come on to buy rams and breeding stock and the big western stud flock men will show their sheep as well as the eastern breed-

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KANSAS FARMER COMPANY,
Topeka, Kansas.

ties, lumber, telephone poles, or firewood.

THE CHICAGO CEMENT SHOW.

One of the novelties which has grown out of our modern civilization was the cement show which was recently held in Chicago. The almost universal use of cement for certain purposes and the constant development of new uses for this wonderful material are what made this show possible. It occupied the entire Coliseum and Annex on Wabash Avenue and was probably the largest exhibition of cement and allied products ever brought together under one roof.

Perhaps the most unique exhibit was that made by the Universal Portland Cement Company of a model concrete farm which covered a floor space of 400 square feet and contained farm residence, barn, milk house, hog pens, chicken coops, silos, bridge, dam, benches, fence posts, clothes line poles, walks and steps. More than 100,000 people visited this show some of whom were from foreign countries. Purchasers from the British Isles, Australia, San Domingo and South Africa were in attendance for the purpose of securing the most approved cement working machinery.

Aside from the model cement farm, perhaps no feature awakened greater general interest than the guessing contest which was provided for the ladies in attendance. The members of the fair sex were invited to guess as to the total number of paid admissions to the show, and the prize was a \$5,000 cement house which was won by a young lady resident in Chicago. During the show the Northwestern Cement Products Association held its annual meeting, and it was stated that another similar show was projected for Madison Square Garden, New York City, during December next.

BROOM CORN IN KANSAS.

The present price of \$200 per ton for broom corn brush in Kansas has served to develop a revival of interest in this crop. Inquiries concerning the broom corn and methods of handling it, are frequent from different parts of the state.

When intelligently handled, broom corn may be considered a fairly profitable crop in favored regions, but like any other business, broom corn growing has its drawbacks. The broom corn area of Kansas is confined to two separate and fairly distinct districts. In the western part of the state, including Seward, Haskell, Hamilton, Wichita and adjoining counties, there is considerable broom corn production from the dwarf varieties. Liberal is an important shipping point. Further east, in the counties of Sumner, Sedgwick, and adjacent counties,

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ers. The English breeders will also cooperate in every way to make it a success. The Flock Register and Wool Growers' Association and the leading breeders and importers are all enthusiastic over the scheme. The Honorable James Wilson, Secretary of Agriculture, heartily endorses the idea and offers the cooperation and support of the government in every way. The agricultural colleges are enthusiastic and everybody wonders why we have not had it before.

The goat breeders will join and establish a department for their stock. The railroads will give reduced fares and the express companies will make special rates for shipping out stuff that will be sold in small numbers.

NEW SANTA FE TRAIL.

Reference was made in these columns some time since to an effort which is now being made by the citizens of those towns and cities lying along the Santa Fe Trail between Great Bend and Pueblo in the building of an inter-state highway. This matter seems to have aroused intense interest in that section of the state and indications are now that this road will be built along the line of the old Santa Fe Trail and parallel, to a great extent, to the Santa Fe railroad. The distance between the terminal points is about 325 miles although it is stated that further interest has developed to the eastward as far as Hutchinson and Wichita. Interest in the proposed new Santa Fe Trail was so great that another project is now under way to build a Kansas and Colorado boulevard from Great Bend to Pueblo parallel to the Missouri Pacific Railway. It is proposed to construct these roads by means of bonds and by private subscription. The farmers seem to be enthusiastic in regard to the matter as it will not only afford them two main lines of permanent roadway, but will afford them inspiration for the building of laterals and possibly other parallel lines. As the country is extremely level with no heavy grades, estimates are made on a basis of \$3,000 per mile, exclusive of bridges and culverts.

In the construction of such road there can be no doubt that the enormous burden of mud tax will be largely done away with while the ordinary road tax, which is now practically wasted under present management, will be utilized to maintain the macadam roads and all the property adjacent will be benefited thereby. If the farmers could be in position to market their grain and live stock at suitable periods when the market conditions are right, it would go a long way toward solving the problem of congested traffic on the railways, would give the farmers the advantage of selling at an advantageous time, and would, in part, control the fluctuations in price of farm products.

THE FARMER AND THE CENSUS.

I would respectfully suggest that it would be of interest to a majority of KANSAS FARMER readers, and beneficial also, if you could publish the list of questions which the present census enumeration will require us to answer especially those that pertain to farm statistics.—J. M. Hoover, Rice Co., Kan.

Forty-five thousand of the 65,000 enumerators on the next census will be assigned to work in the rural districts and more complete agricultural statistics will be collected than ever before. In addition to the usual questions about the age, sex, etc., of the farmer's own family he will be asked a lot of questions about his farm, stock, etc.

The following questions will be included and it might be well to post up about your own affairs and be ready with the information when the enumerator comes:

Do you own your farm?
What is the acreage?
What acreage is under cultivation?
What was the value of your farm buildings and implements on April 15, 1910?

What was the amount of the mortgage, if any, on your farm on April 15, 1910?

What were the expenses of running your farm during the year 1909?

How many domestic animals on your farm and how classified?
How many domestic animals, and of what kind were born on your farm during the year 1909?

How many animals were purchased, how many sold alive and how many slaughtered during the year 1909?

What, if any, was the quantity of wool and mohair shorn from your flocks in 1909?

What was the estimated value of fowls, eggs and dairy products produced in 1909?

How many bees, if any, have you? What amount of honey, if any, was harvested in 1909?

What was the quantity of field and garden crops of all kinds harvested in 1909 including vegetables, flowers and forest products?

What was the specified value of different crops sold in 1909?

How much pasture land have you on your farm?

How much land have you under irrigation, if any?

KANSAS FEEDING STUFFS LAW.

The Kansas Feeding Stuffs Law has had a most salutary effect and it is reported that there is an extraordinary improvement in the composition and quality of bran, shorts and mixed mill feeds, that are now to be found on the market since the passage of the law. Adulterants were plentiful in all classes of mill feeds, though the greater quantity was to be found in the mixed feeds, as they gave greater opportunity. Ground corn cobs, oat hulls, rice bran, mill sweepings, and the like, have been mixed with this form of mill products, but since the passage of the new law requiring all such to be registered, with the Director of the Agricultural Experiment Station, to bear tags showing their composition, and a name indicating their character, there has been an immense improvement. The special agent in charge of the inspection work reports that millers and dealers generally are respecting and obeying this law. This inspector has found a somewhat remarkable condition. His experience has developed the fact that Kansas can be divided into eight districts in each of which the wheat and bran will have a slightly different composition. The protein content steadily increases toward the west part of the state. As the law does not require that pure bran and shorts shall be registered, the question at once arose as to what should constitute an accurate definition of pure bran and shorts. The chemists of the experiment station hold that pure bran must not include anything that is not derived from wheat in the milling process. That is, bits of straw, weed seeds, cheat, and screenings must be kept out. Here is where one of the chief difficulties in enforcing the law was found, as some millers had a practice of adding screenings to their bran and naming it pure bran.

The only purpose of this law is to compel all millers and dealers to sell the various feeds true to name and quality. If a farmer asks for and pays for bran, he should receive pure bran. Screenings and other matter can be sold without interference of the law, provided it is sold under its proper name. The law has been a direct benefit to the buyer, because it gives him an assurance of getting what he pays for, the miller has been benefited by the elimination of competing short weight and adulterated goods, and by the increased sale of his own goods by the guarantee of quality afforded by the inspection tags. The short weight fraud has been practically cut out. Formerly, many of the so-called 100 pound packages weighed only 90 pounds or less. Now, the net weight must be 100 pounds, exclusive of the weight of the sack.

All medicinal foods come under the provisions of this law, which requires that they be registered, and that the manufacturers pay a registration fee of \$50 for each brand that sells for more than \$40 per ton. Some opposition developed at first, but the manufacturers are now complying with the law. Publicity has been the greatest aid to the enforcement of this law. The director of the Kansas Experiment Station publishes each month a list of those manufacturers who have registered their goods, and complied with the requirements of the law. It is now understood that manufacturers favor the law, instead of opposing it, while the buying community is greatly benefited in the assurance of getting what they pay for. In the enactment and enforcement of this law, Kansas has taken one more forward step in the fight for better business methods and conditions.

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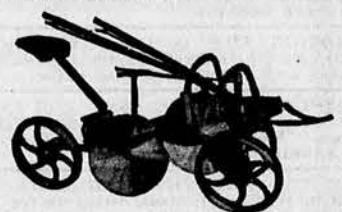
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BARRED ROCKS—62 PREMIUMS, 26 firsts. Stock and eggs. W. C. Opfer, Clay Center, Kan., Route 5.

ROSE COMB RHODE ISLAND REDS EXCLUSIVELY. Eggs for hatching in season, \$1.50 per 15; \$7.00 per hundred. D. Winchell, Unionville, Mo.

100 BARRED ROCK CKLS. AND FEMALES, prize winning strains, 85 premiums, 30 yrs. experience. Eggs \$2 per 15, \$5 per 50. Chris. Bearman, Ottawa, Kan.

ROSE COMB RHODE ISLAND REDS, exclusively. Eggs, \$1.50 per 30; \$2.00 per 50; \$3.50 per 100. Alfred Young, Wakefield, Kan.

75 KINDS EGGS IN SEASON—CHICKENS, ducks, geese, turkeys, pheasants, pigeons, Scotch Collies, Jerseys registered. Pauly's Pheasantry, Kahoka, Mo.

S. C. WHITE LEGHORNS—EGGS FOR hatching from vigorous mature birds, \$5.00 per 100, \$1.00 per 15. J. D. Taylor, Lawrence, Kan.

\$1 FOR 15 EGGS—BLACK LANGSHANS, Rose and Single Comb Brown Leghorns. Anconas; stock scored 91 to 95 by Judge Emory. Dunable Poultry Yards, Clay Center, Kan.

FOR SALE—PURE BRED SINGLE COMB R. I. Red cockerels, also eggs in season. Mrs. W. L. Quall, Topeka, Kan., R. D. No. 2.

ROSE COMB RHODE ISLAND REDS—Extra good stock, farm raised, free range, carefully packed eggs, \$1.00 for 15; \$5.00 for 100. Ella Kirkpatrick, Westphalia, Kan.

SINGLE COMB RHODE ISLAND REDS, eggs \$2.00, \$3.00 and \$5.00 per 15; none better; my show record tells the story. Chas. E. Lentz, Atchison, Kan.

PALMER'S BLACK LANGSHANS WON every first in class Kansas State Show, 1910. Stock for sale. Eggs \$3 for 15. H. M. Palmer, Florence Kansas.

R. C. R. I. REDS—AS RED AS YOU CAN get them without losing luster. Champion western winners. Send for mating and price list. Frank H. Foster Topeka Kan.

GALVA POULTRY YARDS—R. C. W. Leghorns and White Wyandottes. Some stock for sale and eggs by the setting or hundred. Prices reasonable. John Ditch, Prop., Galva, Kan.

BLACK LANGSHANS—EGGS FROM my pens of high scoring birds, \$2 per 15; \$3 per 30. Farm range \$1 per 15, \$1.50 per 30, \$5 per hundred. Mrs. D. A. Swank, Blue Mound, Kan.

40 VARIETIES OF FANCY POULTRY, geese, ducks, turkeys, chickens, pea fowls, guineas, pigeons and rat dogs. Stock and eggs at a very low price. Catalog 4 cents. F. J. Damann, Farmington, Minn.

EGGS FROM PURE BRED S. C. W. LEGHORNS, W. Wyandottes, \$1 per 15, \$5, 100. W. H. Turkeys Emden Geese, \$2 per 10. Baby chicks 10 cents each. A. F. Hutley, Maple Hill, Kan.

BUFF ORPINGTONS—50 FINE COCKERELS from prize winning stock. My book tells why they are such wonderful breeders; why my hens are such great layers; sent for 10 cents. W. H. Maxwell, R. 95, Topeka, Kan.

RHODE ISLAND REDS—BOTH COMBS. All stock sold we can spare this season. Ten matings to furnish eggs for hatching. Guarantee on eggs. Mating list with show record free. H. A. Sibley, Lawrence, Kan.

BUFF ROCKS FOR BUSINESS, PLEASE—ure and profit. Have raised nothing else for nine years. Have the best stock of birds now that I ever had. Eggs, \$1 for 15; \$5 for 100. H. M. Stephens, Munden, Kan.

BUFF ORPINGTONS—MATING LIST free. Harry Cure, Atchison, Kan.

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SINGLE COMB BLACK MINORCA EGGS, Northup strain, \$2.00 per 15; \$6.00 per 50 eggs. Fred Kelm, Seneca, Kan.

WHITE WYANDOTTES—BRED UP TO date. Eggs for hatching. S. W. Artz, Larned, Kan.

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INDIAN RUNNER DUCKS—FAWN AND White; prize winners; eggs, 13 for \$1.50. J. B. Miller, Carbondale, Kan.

WHITE AND SILVER LACED WYANDOTTES, seventeen, \$1; separate farms. Della McDonald, Lamar, Kan.

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WHITE WYANDOTTE EGGS—FROM choice stock, 15, 75c; 100, \$4.00. H. L. Smyser, Route 8, Wichita, Kan.

ROSE COMB BROWN LEGHORNS—EXCELLENT laying strain; fresh, fertile eggs, \$1 per 15. Frank Shryack, Colchester, Ill.

WHITE WYANDOTTE EGGS, \$1.00 PER 15, \$4.00 per 100. Good stock. Mrs. Geo. Downie, Route 2, Lyndon, Kan.

ROSE COMB RHODE ISLAND RED EGGS, 15 for \$1.50; splendid layers. S. M. Snider, Shannon City, Iowa.

EXTRA BIG BRED HIGH SCORING Black Langshans, R. C. R. I. Reds. Osterfoss Poultry Farm, Hedrick, Iowa.

INDIAN RUNNER DUCK EGGS \$1.50 PER 15; \$8.00 per 100. Fine farm range. Mrs. Sam'l Lloyd, Route 5, Greencastle, Ind.

PURE BRED BUFF ROCKS—FARM raised; eggs, \$1 for fifteen or \$4 per hundred. Mrs. W. Lovelace, Muscatola, Kan.

EXTRA SILVER WYANDOTTE HENS cheap. Eggs, \$1.50 per 15; 100, \$3.00. Mary Gordon, Baker, Kan.

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ROSE AND SINGLE COMB BROWN Leghorns, also Rose Comb Rhode Island Reds. Exhibition stock. Mrs. Ida Standiford, Reading, Kan.

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SEEDS AND PLANTS.

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SEED CORN—HILDRETH YELLOW Dent. C. E. Hildreth, originator, breeder and grower, Altamont, Kan.

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SWEETSTAKES CORN—THREE SWEETSTAKES and twenty-three firsts. From Co. Fair to Nat. Corn Exposition, first wherever shown. Immense yield. J. M. Gilman & Sons, Leavenworth, Kan.

EARLY OHIO SEED POTATOES—(Grown from Red River seed in 1909.) Extra nice, large and smooth, for sale; lots 10 bu. to car load delivered Topeka depots, 40c bu.; sacks 5c. Riverside Stock Farm, Route 6, North Topeka Kan.

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100 PALMETTO ASPARAGUS PLANTS delivered postpaid \$1.00. Grown by successful asparagus growers who know the market demands and profits of the crop. Instructive circular with quantity prices, tell all. Write today. R. W. Weaver Co., R. 9, Wichita, Kan.

PLANT CATALPA SEEDLINGS AND grow your own posts. We have a fine lot of pure Speciosa and will sell them cheap. We also have an assortment of fruit trees, etc. Try us on evergreens; we dig them with balls of dirt and sow sacking around the dirt. Almost sure to grow. Lost Springs Nursery, Lost Springs, Kan.

ALFALFA SEED FOR SALE—250 BU. home grown seed without irrigation at Kendall, Kan. Main line Santa Fe R. R. Kearney Co. Delivered in seamless bags at \$10.00 per bu., f. o. b. cars. Bags 25c extra. Advance money order to John Shinkle, foreman, for amount wanted. Reference, Holland Banking Co. Springfield, Mo.; Kearney Co. Bank, Lakin, Kan.; M. R. Beatty, F. M. and merchant, Kendall, Kan.; H. H. Smalley, 738 East Walnut St., Springfield, Mo.

PATENTS.

SEND FOR FREE BOOKLETS—ALL about patents and their cost. Shepard & Campbell, 6900 McGill Bldg., Washington.

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SCOTCH COLLIE PUPS FOR SALE.
Thomas Evans, Neosho Rapids, Kan.

FOR SALE—2 EXTRA FINE FOX TERRIER puppies five months old. M. B. Caldwell, Broughton, Kan.

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FOR SALE—DOUBLE STANDARD Polled Durham bulls of different ages. C. M. Albright, Overbrook, Kan.

FOR SALE—TWO SONS OF THE GREAT Holstein bull, Butter Boy Pietertje 3d, at farmer prices. Get busy. S. E. Stoughton, Route 4, Hutchinson, Kan.

SEE US BEFORE PLACING YOUR stock catalog printing. Western Printing Co., Ptg. Dept., Kansas Farmer, Topeka, Kan.

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SHETLAND PONIES—WRITE FOR price list. Charles Clemmons, Waldo, Kan.

HAVE TWO GOOD JACKS. ONLY NEED one; your choice cheap for cash. Also good draft stallion. L. Cox, Concordia, Kan.

FOR SALE—IMPORTED AND HOME bred black Percheron and Standard bred driving stallions. Joe S. Williams, Edson, Kan.

FOR SALE—EXTRA HEAVY-BONED Percheron stallions and mares, one to eight years old. Lengfelder Bros., Mt. Vernon, Ill.

FOR SALE—REGISTERED CLYDESDALE and Hackney stallions and mares; also registered Hereford cattle. Thos. Evans, Neosho Rapids, Kan.

ALYSDALE SHORT HORNS—Herd headed by Archer's Victor 292012; for sale at very reasonable prices, two fine (red) young bulls of serviceable age; also some cows and heifers, all richly bred. Call or write, Chas. W. Merriam, Columbian Bldg., Topeka, Kan.

MISCELLANEOUS CLASSIFIED ADS.

LIVERY STOCK FOR SALE—WOULD trade for land. Earl Wilson, Palmer, Kan.

E. R. BOYTON HAY CO., 1305 WEST Eleventh street, Kansas City, Mo., receivers and shippers of hay. We solicit your business.

20 CAR LOAD HEDGE POSTS FOR sale. All sizes and all prices. Correspondence solicited. W. H. Bitts, Melvern, Kan.

DRY BATTERIES RENEWED BY ANY- one for 10c to 25c per doz. Formula \$1. Will send it this week for 35c. Fairmount Telephone Co., Leightons Corners, N. H.

BOOKS—WE SELL AT BARGAIN prices the books that every family wants and needs. Send today for free illustrated catalogue. Peter V. Wilton Co., Amsterdam, N. Y.

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TRACTION ENGINE FOR SALE CHEAP—I have taken over a good 12 horse C. Altman traction engine in good repair and splendid running order. Almost as good as new. Will take \$125 if sold soon. Jno. A. Edwards, Eureka, Kan.

PIANO AND ORGAN PLAYING MADE easy. On receipt of 50 cents we will mail you one of our Ideal Chord Charts, enabling you to play the piano or organ without the aid of a teacher. Ideal Chord Chart Co., Box 445, Marion, Indiana.

EGGS WANTED FOR HATCHING.

Thousands of Kansas Farmer readers want to buy eggs for hatching this season. You can sell your surplus stock quickly and directly by advertising on the "Readers' Market Place" page. Rate only 3 cents a word. Full information at the top of page 6 this issue.

Here's some proof, that these small ads do the business:

Kansas Farmer brought me more inquiries and more orders than all my other advertising combined.—L. M. Jamison, Sterling, Kan., March 7, 1910.

Four or five small ads in Kansas Farmer nearly always sell all my surplus stock and eggs. Then I have to stop the advertising or write letters to answer that I have no stock for sale.—Mrs. Geo. W. King, Solomon Kan., March 9, 1910.

I am more than pleased with the results I get from my classified advertisement in Kansas Farmer. All the trouble I had in advertising was that I had to send back so much money because I did not have enough cockerels to supply orders.—Mrs. Wm. Bumphrey, Corning, Kan., March 14, 1910.

EVERGREEN TREES

10,000 genuine Chinese Arbor-Vitae evergreens, ready to ship when you say. From 12 in. to 3 feet high, heavily rooted, blizzard-proof—sure to grow. Make best wind-breaks. Fast growers. We send full planting directions and advice with trees. Landscape stock, or all kinds. Special prices on quantities. Write today for price lists free.

Abilene,

FARRAR NURSERIES,

Kansas

PURELY PERSONAL.

Every once in a while a man feels like sitting down and recounting his old friends and acquaintances. He likes to renew old memories. It was thus ordered when man was created, and it is this, perhaps, that makes mankind susceptible of its high development. For remembering the things that are past, we are spurred on to greater and better things for the future.

The editor of KANSAS FARMER fell to wondering the other day how many of our readers were our old friends. Of course there are thousands of our readers we never saw—yet we feel sort of acquainted. It occurred to the editor at that time, that if he personally knew every one of his readers, he could make a better KANSAS FARMER. Of course he can see all the names by looking over the subscription list, but that's a good deal like looking at the faces and forms of thousands of people where a great crowd may be assembled. You see a lot of people, but you don't get to know them, like when they talk to you.

So the editor of KANSAS FARMER decided to ask each of his readers to write him a letter telling him—

1st. How many years have you been taking KANSAS FARMER or Farmers' Advocate.

2d. What features of KANSAS FARMER do you like best, and which, if any, do you like the least?

3d. What would you like to have in KANSAS FARMER, that is not now in it?

4th. Anything else you might think of at the moment, that you want to tell the editor.

Such a letter will help to get better acquainted, and that in itself is a profit.

Besides, it will help to make KANSAS FARMER better fulfill its mission, and that's another profit—to you and Kansas generally.

Will you not take the few moments necessary to write us some of the thoughts you have at times wished to express to us, on KANSAS FARMER, and do it this evening? Address Mr. Borman, KANSAS FARMER Office.

10 Weeks 10 Cents.

We will send the KANSAS FARMER on trial ten weeks for ten cents. Tell your friends and neighbors of this offer. Better still send us the names of some of your friends who ought to read the best agricultural paper in the Southwest with 10 cents stamps or silver for each name and we will notify each one that you are sending them the paper. We will appreciate it, so will your friends.

Bishop & Carnahan are the proprietors of the Slate Creek Home Nursery Co., at Conway Springs, Kan. They have a splendid lot of homegrown nursery stock that is already acclimated and their prices are very reasonable. It pays to get good fresh nursery stock that is in healthy condition, and the Slate Creek Nursery has the advantage of being able to ship Kansas grown trees and shrubs to their customers without danger from a long haul on the railroad. Write for their catalog and price list and mention Kansas Farmer.

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Base Ball Outfit Free.

We have a complete baseball outfit for every boy in Kansas who will express a desire to have same. We will not ask you to do something hard or impossible and if you will send us your name and address at once we will send you full particulars how to get this fine outfit without delay. Simply address

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2 CHESTS OF SILVER, 5 SOLID GOLD BROOCHES,
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Fancy Designs.

1000 - OTHER VALUABLE PRIZES - 1000



To be given absolutely free for solving this puzzle.

DIRECTIONS: In this picture are five faces. Can you find four of them? Outline each face on this or a separate sheet of paper and number them 1, 2, 3, etc. To the two nearest correct answers we will give, absolutely free, chest of silver; to the next five nearest correct answers a solid gold brooch; to the next 100 nearest correct answers will be given a valuable prize together with a cash purchasing coupon.

WINNERS WILL BE NOTIFIED BY MAIL.

CONDITIONS: Only one solution accepted from each family and only from residents of the state of Kansas. State whether you have a piano or organ in your home and give the makers name. Mail or deliver your solution on or before Friday, April 1 1910. Address

PUZZLE DEPARTMENT, E. B. GUILD MUSIC CO.

722 KANSAS AVE.,

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raised in Southern Alabama, Western Florida and along the Gulf Coast, with shipping season commencing early in March, and commanding from \$2.00 to \$2.50 per crate at shipping point. This same land then planted in sweet potatoes will yield \$100 to \$150 per acre, and, in addition, an excellent forage crop, making

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LIVE STOCK



Good Work by the Bureau of Animal Industry.

When the Bureau of Animal Industry began systematic work more than ten years ago for the eradication of sheep scab this disease prevailed over large areas in the west and was rapidly spreading. Gradually the infection has been stamped out and the areas reduced until the territory now remaining under quarantine consists only of the states of Kentucky, Texas and California, the territory of New Mexico, the southern portion of Colorado two counties in Arizona, the northern parts of Utah and Nevada and the western portion of Oregon. The good results have been accomplished with the co-operation of state and local officials and the support of progressive stockmen. It is believed that with a continuation of active work by all concerned the disease may be completely eradicated from the west within a very few years.

Sorghum or Kafir for Horses.

I wish you would let me know if ground cane seed would do to feed work horses. I have heard that it is as good as Kafir corn.—C. D. Bidwell, Butler Co., Kan.

There is but little difference in the feeding value of cane seed and Kafir corn, as they both belong to the same family of plants. Compared with corn, the analyses show the following digestible nutrients:

	Protein	Carbo Hydrates.	Fats.
Corn.....	7.9	66.7	4.3
Sorghum.....	7.0	52.1	3.1
Kafir corn.....	7.8	57.1	2.7

From this it will be seen that corn and Kafir are nearly equal in protein which is the bone and muscle forming element; not very far apart on the starchy matter but very widely divergent on the fats while sorghum is below both in all but fat.

Corn is the most palatable and best relished of all the grains. Oats is especially valuable for horses because of its high protein value but in the absence of either of these, Kafir or sorghum may be temporarily substituted for horse feed. Neither is to be recommended as an exclusive grain ration except in emergencies.

Some Horse Sense.

There are several reasons why a horse should be clipped. They are more comfortable without that hot coat which is so many times filled with sweat and gum. It is as much comfort for a horse to get that hot coat off as it is for a man to get his off in hot weather. They are healthier, as their temperature is more even and not so apt to contract disease, cold, catarrh, fever, strangles and many times glanders. Horses standing all night with long, wet hair become chilled and develop rheumatism, pneumonia and lumbarago, which often leaves them with the worst type of heaves. If mud and dried sweat are left in the long hair on the legs they contract mud fever, scratches, grease heel, etc. If they are clipped throw a blanket on them and in a half hour they are steamed out and dry, ready to put away for the night.

With a long coat they are more or less gummy and the pores are closed, causing skin diseases, such as mange or ascaris and are subject to over exertion at heavy pulling or rapid work, even where there is no change for immediate concussion, such as heat exhaustion or sunstroke. For an experiment take your team, clip one and not the other and see which one will go through the hot summer the best, feel the best and look the best, easiest taken care of. Besides, while driving the long hairs are not flying in your face and getting all over your clothes. For convenience, comfort and health of the horse use the clippers.—Dr. Sheldine, Ponca City, Okla.

Feeding Dairy Calves for Best Growth.

"About 70 per cent of the 1,242,700 dairy calves reared in Wisconsin each year must be raised on skim-milk," writes Prof. D. H. Otis, formerly of the Kansas Agricultural College and now of the Wisconsin University. "By good care and proper feeding several dollars may be added to the value of any calf during the first year. The total increase by this means would amount to millions of dollars to the dairy farmers of the state.

"Young calves need whole milk for the first few days. Skim-milk is a cheap feed for calves, but should be fed carefully in limited quantities and only while it is warm and sweet. Skim-milk may form the principal diet of the calf for six months to a year. Factory skim-milk should always be pasteurized to avoid the spread of tuberculosis. The best skim-milk is that which is fresh from the separator and still warm.

"Experiments show that it is only one-fourth as expensive to raise a calf on skim-milk as on whole milk. Two pounds of grain with the proper amount of skim-milk equals in feeding value one pound of butter-fat. Buttermilk properly handled may profitably be fed to calves.

"The grain for calves should be fed first while the calf is quite small with a little bran to aid the calf in learning to eat. High-priced concentrates are unnecessary and give no better results than cornmeal oats and bran, ground barley, etc., when fed in proper combinations.

"The roughage for calves should first be fed at two or three weeks of age when the calf begins to eat grain. Good clean hay, either timothy, blue grass, clover or alfalfa may be used. Corn silage is an excellent calf feed when fed in moderate amounts. Good pasture is an essential after four to six months.

"The management of the calf during the first year has much to do with its later usefulness. Plenty of water and salt should be given in clean vessels. Sudden changes of diet should be avoided and regularity in feeding should be practiced. Warm, dry quarters should always be provided in damp weather. Plenty of roughage should be given, and not too much grain, so as to develop a large capacity for handling food, as is desirable in dairy animals."

From present indications the pure bred wheat plats of the botanical department of the Agricultural College have suffered severely from winter killing. It is thought that from 80 to 75 per cent of the wheat in the nursery plats where the grains were planted in single hills, four inches apart each way, has been killed. In the larger plats the percentage of loss is much smaller except where the planting was very late. Professor H. F. Roberts considers that the lessons learned from these plats is of great value because of the elimination of the weaker and less hardy individuals and varieties. Through the knowledge thus gained the wheat growers of Kansas will profit.

Since seed of cow-peas is very expensive, costing \$3.00 per bushel or more at retail, I think it advisable for you to plant a less quantity of peas per acre and cover more ground. Instead of planting in close drills between corn rows at the rate of a bushel of seed per acre, plant one or two drill rows between the rows of corn, which will require only a peck to one-half bushel of seed per acre. By using the common wheat drill and stopping up part of the seed cups you may plant one or more rows as you may desire. In planting fewer rows of peas increase the rate of seed so as to have the peas a little thicker in the drilled rows.



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"As an American I am delighted to see the remarkable progress of Western Canada. Our people are flocking across the boundary in thousands, and I have not yet met one who admitted he had made a mistake. They are all doing well. There is scarcely a community in the Middle or Western States that has not a representative in Manitoba, Saskatchewan or Alberta."

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Hereford Special Prizes for 1910.
The Board of Directors of the American Hereford Cattle Breeders' Association announces the following special offerings for Hereford cattle, all to be given in 1910.
\$4000, American Royal Live Stock Show, Kansas City, Mo.
\$4000, International Exposition, Chicago, Ill.
\$2000, Western Stock Show, Denver, Colo. (Show held Jan. 1910.)
\$2000, Ft. Worth Live Stock Show, Ft. Worth, Tex. (Held March 1910.)
\$800, San Antonio, Texas, Fair.
\$600, St. Joseph, Mo., Live Stock Show.
\$750, Kentucky State Fair (Louisville).
\$1000, Iowa State Fair.

of the trial were fed on pasture for 98 days, half of them being on alfalfa and half on rape pasture.

Pasture.	Gain per pig.	Ave. Grain per daily 100 lbs. gain.
Rape.	107.6	1.09
Alfalfa.	107.8	1.10
		301
		300

It is seen that pigs on rape pasture made almost exactly the same gains as those on alfalfa pasture, with the same amount of grain required to make a pound of gain.

The comparative value of rape has been tested at several stations, among others the Wisconsin Experiment Station, which reports the following trials between rape and clover as a pasture for hogs.

	1898.		1899.
No. pigs	Rape.	Clover.	Rape.
Initial weight.	19	19	21
Grain per 100 lbs. gain.	111	110	101.9
Daily gain per hog.	391	439	332
	.87	.78	1.27
			1.22

\$300, Minnesota State Fair.
\$500, Indiana State Fair.
\$500, Illinois State Fair.
\$500, Nebraska State Fair.
\$300, Wyoming State Fair.
\$300, West Virginia State Fair.
\$300, Missouri State Fair.
\$300, Tennessee State Fair.
\$300, Wisconsin State Fair.
\$600, Sioux City, Iowa, Live Stock Show.
\$300, Dallas, Texas.
\$250, Wichita, Kansas.
\$250, Topeka, Kansas.
\$200, Ohio State Fair.
\$200, South Dakota State Fair.
\$200, North Dakota State Fair.
\$200, Oregon State Fair.
\$200, Hagerstown, Md., Fair.
\$200, Montana State Fair.
\$200, Michigan State Fair.
\$200, New York State Fair.
\$200, Virginia State Fair.
\$300, Oklahoma City, Okla.
\$200, Roanoke, Va.
\$100, Idaho State Fair.
\$300, Inter-State (Denver, Colo.).
\$250, Blue Grass Fair, Lexington, Ky.

\$200, North Yakima, Washington Fair.
\$100, South Carolina State Fair.
\$50, Mississippi State Fair.
\$50, Louisiana State Fair.
\$250. In Canada. Place to be left to R. J. Mackie, Secretary Canadian Hereford Breeders' Association.
In addition to the foregoing prizes, if the grand champion load of cattle, either fat or feeders, at the American Royal Live Stock Show, or the International Live Stock Show in 1910, or at the Ft. Worth, Texas, Live Stock Show, or the Denver, Colo., Live Stock Show in 1911, are Herefords, \$500 will be added to the awards.

The Feeding Value of Rape.

In reply to the inquiry of a correspondent as to the feeding value of rape will say that this forage plant has given us very satisfactory results at this place. Without going into detail as to the methods of growing it and the yields per acre, which has been discussed by Professor TenEyck, I will give some comparative results as to its value as a pasture crop.

The value of rape as compared with alfalfa is shown by the results of a trial made at this station, where pigs weighing 52 pounds at the beginning

It will be noted that not only was there a saving of grain, but that the gains were more rapid when rape pasture was used instead of clover.

Rape for sheep is fully as valuable as it is for hogs. There is some danger of bloat, but this can be avoided by gradually accustoming the sheep to the green pasture. For sowing in corn, rape has proven a very valuable forage in years when there is a reasonable amount of rainfall after the corn is "laid by."

In using rape for pasture, one should bear in mind that it is a quick growing plant, and does not last the entire season, as does alfalfa and clover, and therefore requires more inconvenience in securing pasture for the entire season. Its feeding value, however, is not to be questioned. For a crop sown in small lots or yards that are found around the barns on an average farm, there is no plant that is better adapted or will give more pasture per acre.—Prof. F. G. King, Agricultural College.

A Money Making Dairy Cattle Proposition.

R. J. Linscott of Holton, Kan., sends us some very interesting figures that he secured from one of his customers. Mr. Linscott is the best known breeder of Jersey cattle in the west, and has devoted a great deal of time and study to the improvement of his herd, and now has one of the best working herds in the United States. There are about 50 cows in milk, and about the same number of bred heifers, besides a lot of young heifers and a few young bulls in the herd. In such a large number there are of course individuals of superior excellence, but Mr. Linscott has evened up his herd to such an extent that he is convinced that he now has no animal that will not be a profitable one if given good treatment. His sales have averaged \$100 a day since the beginning of 1910, and the cows produce about \$15 a day in milk.

The figures given are as follows: About one year ago, O. P. Dovel of Auburn, Neb., bought of Mr. Linscott a nice bunch of 15 yearling heifers. These are about the same class that Mr. Linscott is selling regularly for \$100 each. A few days ago, Mr. Dovel disposed of these cattle at public auction, and the profit and loss account shows as follows:

Cost of 15 heifers.	\$1,500
Freight.	28
Interest at 8 per cent.	120
Keep 1 year at \$2.	300
Registration of 15 calves at \$2.	30
Sale expenses at \$10 each.	150

Total paid out.	\$2,128
CREDITS.	
15 cows and calves sold for.	\$2,825
Milk sold for.	85

Total receipts. \$3,410
This shows a net profit of \$1,282 over and above all expenses on an investment of \$1,500 for one year. It is not often that even a farmer can make 85 per cent interest on his investment. Dairy farming with pure bred cattle has great possibilities ahead of it in Kansas.

The great Missouri Holstein cow Salatine Carlotta that produced 18,405 pounds of milk from which was made 721 pounds of butter in one year, is represented by one of her best sons in the College dairy herd at Manhattan. This cow has a record of 104 pounds of milk in one day.

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The Iowa is the most durable.

BECAUSE the frame is heavier than that of any other machine. There are no overhanging bearings, every wheel is supported by a bearing on each side. The gears are tightly enclosed so that dust or other matter cannot get to them to clog them and cause them to wear. The IOWA bowl being lighter, requires less power to maintain its proper speed and hence there is less wear on the gears. NO OTHER MACHINE CAN LAST SO LONG BECAUSE NO OTHER MACHINE CONTAINS THE ABOVE FEATURES.

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FARM INQUIRIES



ANSWERED BY
Prof. A.M. Ten Eyck

Corn for Jefferson County.

Will you please advise me as to the best variety of corn to plant in Jefferson county, Kan., as I expect to farm there this summer? We have always raised yellow corn. Our soil is generally good but there are some "gumbo" spots. Our method of planting is to spring plow moderately deep and early, plant about April 20 to May 10 in rather shallow furrows. For weedy land what would you advise as to method of planting and cultivation.

Please quote prices of your seed corn if you can furnish the variety you mention.—Wm. Curry, Liberal, Kan.

Am mailing Press Bulletin 175 giving list of seed corn and other seed grains which we offer for sale, with prices. The Boone County White or Reid's Yellow Dent are standard varieties for growing in Jefferson county, also recommend the Leaming, Commercial White Dent and Kansas Sunflower, have mailed a list of a few growers who have reported seed for sale.

I would recommend using the disk furrow openers on the planter in the weedy ground, this gives an advantage in early cultivation to destroy weeds by harrowing. You may also list the corn rather shallow and plant in shallow furrows as you have suggested.

Preparation of Wheat Land.

I have a field to be planted in wheat next fall. In 1907 clover was sown in it. The 1909 hay crop was not cut until July 6. The night following was the beginning of a rainy month so the hay is still spread over the field. The clover died in the fall but I anticipate a stand of clover from seed matured by the second growth before hay was cut. About what time should this green manure be turned under? Should the clover not come up, ought the crab-grass and foxtail to be turned under at an earlier date?—Eva C. Baker, Lebo, Kan.

If your plan is not to crop this ground during the summer but to fallow the land and sow to wheat in the fall I would advise not to plow under the green crop until the clover has nearly reached the blooming stage. The crop should be plowed under green, however, and the field should receive some cultivation in order to destroy the weeds, settle and pulverize the soil and get it into good seed-bed condition.

If the clover does not make a growth on the land the land should be plowed before the weeds have reached the seeding stage.

I am referring your letter to the Director of the Experiment Station requesting him to mail you the bulletins which you have named.

Barley or Oats for Thin Land.

I am always glad to get the bulletins from your Station and at present I am wondering which will be the most profitable for me to sow on rather thin soil, oats or barley. I expect to seed down to timothy and clover. The question has come to my mind, whether winter barley would be the best variety to sow, say the first of March? Did you ever hear of winter barley being sown in very early spring time, before freezing was over? If so, what was the result? Which variety of winter barley gives best yields and the surest crops with you? Also where can the seed be obtained, and the probable cost of same? How much seed should be sown where grass seed is sown?—Frank W. Arms, Breckenridge, Mo.

I think barley will be a little preferable to oats for sowing on the thin land which you describe. I would recommend, however, that you seed spring barley rather than winter barley. We have sown spring barley as early as the 20th of February and secured a yield of 30 bushels per acre;

whereas, in the same year the barley sown at the regular season, about the 1st of April, only yielded 18½ bushels per acre. This was the common six-rowed Mansury barley. Have not sown the winter barley late in the winter or early in the spring but have experimented with winter wheat and find that the winter wheat sown in February produced only two-fifths as great a yield as the wheat sown at the usual season in the fall.

The only variety of winter barley which has proved hardy at this Station is the Tennessee Winter and our strain has produced better than samples introduced from other states. We have no seed for sale at this time of this variety. We do, however, have seed for sale of several good producing varieties of spring barley, including the Mansury mentioned above. According to the tests at this Station the hullless and beardless barleys are not so good producers as the best bearded types. I am mailing you bulletin No. 144 giving information regarding experiments with "Small Grains."

If you plan to sow grass with the barley as a nurse crop I would advise that you sow barley at a little less than the usual rate which is two bushels per acre. You might sow one and one-half bushels per acre or even less.

Seed Corn—Corn Planting.

A neighbor and I had a friendly dispute over seed corn. I sent my order to the college for seed corn and told my neighbor it was properly cured so that an extra per cent would germinate without testing my part. Was I right?

I am just starting to farm for myself, and do not like plan of simply listing in corn, dropping seed on a hard furrow bottom, as farmers in this locality do. My intentions are: Disk twice, list open early, use double row weeder to work ridges down to half-level, plant with two-horse drill planter and as soon as corn is well up begin working with harrow following with cultivator. The ground is level and clean, no washing. I intend to plant the Kansas Sunflower.—Jay McCarty, Manchester, Kan.

Our seed corn is gathered fairly early in the fall or at early husking time. It is separated from the crop and placed in bins and drying crates in our seed house and is well cured and dried. We make a general germination test of each of the different lots and if this shows a high germination, 95 per cent or better, we do not make any further test of ears but if the germination is low, especially if it is less than 90 per cent we make a test of the germination of each ear separate and discard the ears which show low vitality. Most of our seed corn showed good vitality at the first test this year, one or two lots did not satisfy us and we are making an ear germination test of these. It is always safe for a farmer to test the germination of every ear of seed corn which he plants, whether the seed is purchased or of his own growing. The method described in bulletin No. 139 is a good one and I have mailed you copy of this bulletin.

The plan which you describe for planting corn ought to give excellent results. The method gives similar conditions to that secured by planting in plowed ground with the disk furrow opener attachment on the corn planter and as an average for three years this method of planting with the disk furrow openers in a well prepared seed-bed has given the largest yields at this Station compared with listing and surface planting without the furrow openers. The preparation of the seed-bed has considerable to do with the final yield of the crop. Early plowing or early cultivation with the lister or disk has a beneficial effect. I am mailing circular giving results of these experiments. I am also mailing you circular letter on corn cultivation.

Sweet Sorghums.

Generally throughout the United States, when used in stock raising, are not sweet sorghums grown for hay or forage, and fed without cutting off the heads or grain?

Is it not generally sown quite thick, so as to produce a fine stalk?

With such sweet sorghum forage, what other ingredients would be required for a balanced ration?

What is your estimate of the feeding value of this forage?

What is your estimate of its value as a forage crop, compared with others, taking into consideration the quality and quantity of its yield per acre, and cost of production?

When intended for hay or forage, is sweet sorghum often sown in rows and cultivated like corn? Is it usually drilled or sown broadcast?—J. C. Mohler, Topeka, Kan.

I think the general plan is to sow sorghums broadcast or in close drills when the crop is grown for hay or forage and the usual method is to cut the stalk with the head and feed the stover and grain together as forage or hay. To secure a good quality of forage requires thick seeding and in my experience the amount of seed developed is not great when the cane is sown broadcast or in close drills for forage.

I understand, however, that there are certain farmers in western Kansas who practice heading the cane in the field with the grain header when the heads are fed as grain or thrashed for seed. The stover may be cut and cured and stacked or the cattle may be turned into the field and allowed to feed on the standing stover.

I have answered your second question in answering the first. It is advisable to sow thickly in order to produce a fine or slender stalk growth.

Sorghum forage is rich in sugar or carbohydrates but contains little protein hence to balance the ration requires concentrates which are rich in protein or the sorghum forage may be fed in connection with alfalfa hay.

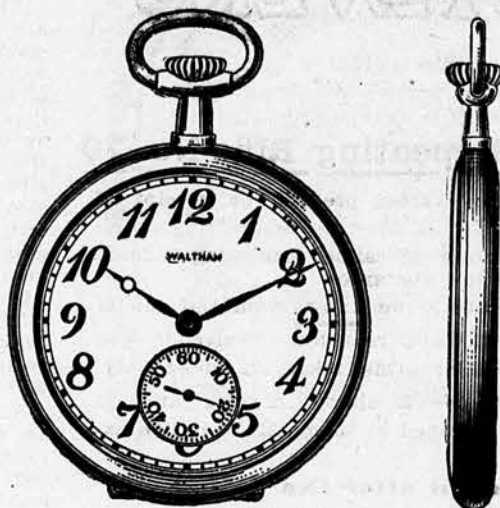
Sorghum forage has a similar feeding value to Kafir forage or corn stover. Pound for pound, however, the feeding value may be less on account of the greater moisture content. Sorghum forage, however, is more palatable than corn stover or Kafir stover and hence may actually have higher feeding value. We have produced eight tons of well cured cane hay per acre. In round numbers cane hay containing 36 per cent of moisture has about eight-elevenths of the feeding value of prairie hay containing 12 per cent of moisture. A good yield of prairie hay is one to one and one-half tons per acre; hence an acre may produce four to five times as much feed when planted in cane as may be produced from prairie grass. Compared with corn stover and other annual forages, cane is the heaviest producer and more cheaply produced I believe than any other annual forage crops. I consider it perhaps the most valuable annual forage crop for Kansas.

Sweet sorghum is not sown in rows and cultivated when intended for forage or hay but this is the usual plan, or should be the plan when the crop is to be harvested for seed. While cattle, horses and sheep may not eat the coarse sorghum stalks, the stalks of the best varieties of sweet sorghum which are high in syrup or sugar may make excellent roughage for hogs as I have shown by actual feeding tests on my ranch near the College during the past winter. I fed a drove of some 70 or 80 young hogs on cane stover or cane stalks for over six weeks without other feed except a little alfalfa and the hogs grew and did fairly well, better I believe than they would have done on a small amount of corn with alfalfa. I am mailing you circular letter giving some further information regarding the culture of cane for forage production.

A subscriber inquires as to whether lime sulphur solution such as is used for spraying fruit trees can be kept indefinitely. Probably not. It can be kept, however, either in a concentrated form or suitably diluted provided it is kept in an air tight vessel or provided it is covered with oil so as to prevent evaporation and exclude the oxygen of the air which tends to unite with some of the elements of the compound. Should oil be used as a protection for the dip, it may be skimmed off or the dip may be drawn off from beneath it when ready to use.

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With this device attached on the outer wall of your home you can talk over hundreds of miles of wire without any danger whatever. It protects your 'phone for ever and absolutely does away with every element of danger. It is automatic—no levers—no switches—no bolts. It's on guard every minute of the day and night.

It has been tested by every means known to science and never failed.

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Visit your dealer and get this protector at once. If he is not supplied send us a postal card. By return mail we'll arrange for you to get this Arrester at the nearest Shinn dealer.

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It contains all known reliable information for every farmer and every member of his household. Tells all about lightning and the laws of nature in regard to it—how houses and barns take fire, and how people and stock are killed—why water drains, stoves and iron beds are very dangerous during thunder and lightning storms, and explains fully how and why Shinn's Copper Cable Lightning Rods prevent strokes absolutely.

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Write for free descriptive matter.

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100 RHEA BROS. Acclimated Percherons 100

You may say this little ad looks cheap, offering so many good horses. Well, friend, it is cheaper than a larger space, that's why we use it. The buyer pays for it. REMEMBER THAT. You who have seen our horses at the State Fairs for years know that they are not the cheap kind; although by our economical system of raising and selling our stallions we can sell cheaper than most dealers. The records show that we exhibited three year old Percheron stallions at the Nebraska State Fair, 1909, with five importers who claim to have bought the best in France and our horses stood 1st, 3rd and 5th. They are all for sale at very reasonable prices. Every one fully guaranteed. Terms to suit. Life insurance furnished.

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If your Dealer hasn't it we will send, express prepaid, on receipt of List Price \$9.00.

We guarantee it to be the most accurate .22 caliber Repeating Rifle in the world—remember it carries the Stevens' guarantee.

You see the cartridge go into the chamber—you know when the gun is loaded. You have fifteen quick shots without reloading—twelve if you use .22 Long Rifle cartridges. Two Models: One takes .22 short only, the other takes any one of three cartridges—.22 short, .22 long and .22 long Rifle, but the greatest accuracy is obtained by using .22 long Rifle exclusively in this model.

Practice now and get after the
RABBITS—WOOD CHUCKS—SKUNKS—CROWS—HAWKS
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And other "crop thieves."

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The Stevens Favorite Rifle No. 17. Single Shot.

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The only Boy's Rifle used by Men.

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It is slow—you don't get all the wool—you cut the sheep—and you make hard work of it for yourself.

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This is the great enclosed gear shearing machine you hear so much about. Every gear is file hard, is enclosed, protected and swims in oil, doing away almost entirely with friction and wear. This machine turns easy, shears fast and gets all the wool. IT MEANS 20 CENTS WORTH MORE WOOL FROM EVERY SHEEP.

Your dealer can supply this machine, or send \$9.00 and we will ship C.O.D. for balance. Write for our new 1910 book, "More and Better Wool." It's FREE. Send for a copy today.

Chicago Flexible Shaft Co., 206 Ontario St. Chicago



THE FARM



Traction Plowing.

The advantages of traction plowing are that the work can be rushed when conditions are favorable; that the work can be done with a smaller force of hands, and fewer horses have to be kept; in hot, dry weather engines can be used when horses could not stand the work; with an engine it is possible to plow very difficult soils, and also to plow deeper than with horses; and under favorable conditions, the cost of traction plowing has been brought lower than that of plowing with horses.

The steam engines weigh from 7 to 20 tons, range from 20 to 50 horse power, cost from \$1,500 to \$6,000, and will plow from 15 to 50 acres a day.

A traction plowing outfit consists of an engine; the plows or disks arranged in gangs; and miscellaneous conveniences for carrying supplies, making repairs, etc. The size and cost of the outfit and the amount of work it will do depend largely on the number of plows operated.

The Manure Spreader a Modern Means.

A magazine writer in one of the current issues makes the statement that if farmers could see the actual results that can be obtained by the wise use of commercial fertilizers, it would mean this very next year an increase of millions of dollars in our crops and that the fertilizer companies would sell \$500,000 worth of commercial fertilizer instead of \$50,000 worth.

The article is interesting and to the point, but why go so far afield for a startling statement. The use of commercial fertilizers is still a matter of education. It is too bad that it is so, but the fact still remains. The use of the ordinary common barnyard manure, however, is not so much a matter of education, for doubtless there is nowhere near the waste of manure that there used to be even a few years ago.

And I make this statement here, that if the farmers of the United States would this year spread their manure with manure spreaders instead of by the old time fork and wagon method, the farmers would still be that same millions of dollars ahead and they would have made nothing like the expenditure in the process. What is more, they would have been utilizing much of their waste product, they would have been saving much of their time and they would have made an investment in the machine, which not only that year would have saved them waste product, time and labor, but would continue to do so for years to come.

Commercial fertilizers are a great thing. They are essentials in many sections of this great land where the soil has been exhausted by continual years of heavy cropping without being given a fair show to recuperate and by not beginning with the means nearest to hand.

Why not begin near at hand. Why not stop the present waste; why not save the time that is right now going to waste, the labor which is going to waste right at the back of the barn. One can spread three times as much manure in a day with a manure spreader, yes four times, as he can with a wagon. He will do it with one-tenth of the unpleasantness and one-third of the labor.

It is no joke to scatter heavy manure all day long off a wagon to say nothing of its being utterly impossible to spread it as thinly and as evenly as it ought to be for the best results. Show me a job on the farm that everyone hates as much as he does the job of spreading manure, but put a spreader on to the farm and see how quickly the atmosphere clears, where it used to be the most unpleasant work to be done, work that everybody got out of except the boys and the hired man and was done by them only when they could not longer put it off, it is now with the manure spreader a comparatively light task. All of the heaviest, most

burdensome, most unpleasant part of the work is now changed to the simple process of sitting still in the seat and seeing that the horses keep moving.

The manure spreader is a modern means of saving this time, labor and fertilizer, but it is a means of things far beyond that. The use of a manure spreader means an absolute increase on every crop on which it is used to 15 per cent to 35 per cent. It means that the soil on which it is spread from that day becomes more valuable. The farm once given that thin, evenly spread coat of manure takes on from that moment a provable, actual, additional cash value.

It is a poor reputation for a farm to have when men driving by will point the whip at it and say it "used to produce pretty good crops, but of late years it is terribly run out." It is a bad reputation for a field to have when farmers say of it: "I used to get 80 bushels to the acre on that ground, but I hardly ever get more than a half a crop now." "On the other hand when the real estate men can come around with a prospective buyer and say: "That field yonder produces 80 bushels of corn to the acre; that one over there grew 70 bushels of oats to the acre." It makes a prospective buyer sit up and take notice. He will let go of his cash a lot quicker and what is more he will let go of a great deal more cash than otherwise you could possibly hope to get for your farm.

Given 20 years of cropping without restoring the manure to the land and your farm has only a portion of its real value. Given 20 years of the constant wise use of a manure spreader returning to the soil by this modern means all manure which has accumulated on the farm, and you have a farm increased in value because it is heavily increased in its ability to grow the crops, the record breaking crops that give the farm a cash value, even give it a value above what it really ought to have.

Now to come down to other things, a manure spreader means money. To reduce it to its final elements, it means more money, and money means better machinery, better buildings, better education for the children and a better home for them to come to when they are through their schooling—a home where they can be content and where you won't have to clip their wings to keep them from flying off to the shiny attractive city, with all its dangers and disappointments. Money does not always mean happiness, but wisely used, it inevitably brings in its train much of contentment and happiness.

It is easily proved, it has been proved on tens of thousands of American farms, it has been proven at every agricultural station that the use of a manure spreader means additional money—money which you otherwise could not have gotten.

Isn't it up to you then to sit right down and get ready to put your manure spreader on to your farm this season. This particular year is surely the time. We have had more snow this year than the past 15. The cattle have been kept closer around the barns and feed lots. The manure is piled mountains high. Spring they tell us, all these old wise weather prophets this year will come early. If it does come early it comes with a rush and there is not going to be any time to put out the manure by the fork and wagon method.

Get your manure spreader on to the farm and get it to work—A. E. H.

Seed Corn Production.

The seed corn business has a bright future before it. The fact that one bushel of seed corn will plant eight or ten acres makes it possible and economical for the average corn grower to purchase pure bred seed from a reliable corn breeder at a good price. As the farmers become educated to see the value of well bred seed, the demand for seed corn increases. Since most farmers have not the time, inclination nor qualifications

to enable them to breed up their own seed, they must necessarily depend upon the corn breeder, and pay him well for his products.

Success in the seed-corn business, as well as in other business, will depend largely upon the man. He must be strictly honest. A man who misrepresents his products will soon be branded as unreliable. The farmers will find him out. Since the seed corn sales are largely a mail order business, it becomes especially important that the corn breeder establish a reputation for reliability. Sometimes a man may send out inferior corn for seed purposes, not because he is dishonest, but because his ideal of good seed is not educated up to the proper standard. A seed-corn man must be a good judge of corn. I feel sure that a number of orders have come to me chiefly because the parties ordering had confidence in my ability to select good seed for them. A few have thus expressed themselves.

A scientific training in our agricultural colleges will be a great help to the corn breeder and grower. I owe much of the success that I have attained in this line to my training in the Agricultural colleges of Kansas and Iowa.

A successful corn breeder must be a close observer of the corn plant, noticing its characteristics, qualities and needs. One person, for instance, will look at an ear of corn and only get a general idea of it, without being able to describe it in detail, while a corn expert would see a large number of characteristics that would take many words to describe. I have spent hundreds of hours studying ears of corn, and I am still learning something new about them. When a person can avail himself of corn judging classes and corn shows he will find them of great help in his study of the corn plant. Exhibiting at state and national corn shows is a great stimulus to the breeder, and helps to advertise his products.

Next to personal qualifications, a good rich soil is essential to success in seed corn production.

I have found that in drouthy years in Labette county, Kan., very little corn grown on upland was sufficiently well developed to be used for seed purposes. To overcome this difficulty I purchased some rich bottom land where, by thorough cultivation, I am enabled to develop good solid corn in spite of the drouths. My upland, however, that has been enriched by manure, cow-peas and clover, produces excellent corn in favorable seasons.

Good soil management is essential for the continued success in producing good corn. Only a small percentage of the farm should be devoted to corn production each year. At least three-fourths of the farm should be devoted to legumes and grasses, with the object of building up the land to enable it to produce good corn crops. Of course live stock must necessarily be kept to consume the feeds produced. All manure must be saved and returned to the land.

Deep plowing and thorough and late cultivation are important factors in producing good corn. In southeastern Kansas, I prefer deep fall and winter plowing, and double disking immediately before planting. The cultivation should be frequent and continued until ears are solid. Too many "lay their corn by," when about waist high. As a result the ground becomes crusted and often covered with grass or weeds which increases the evaporation of moisture so that the corn suffers greatly from a drought, and the ears instead of being solid are chaffy. They apparently cultivate their corn to produce stalks when they should continue to cultivate with a one horse cultivator, until their corn is about mature and good solid ears are formed. These later cultivations should not be over two inches deep, and not too close to the stalks so as to avoid root-pruning.

Sometimes a cultivator will miss a few weeds. These should be removed with a hoe before they become large. On rich land corn will sometimes send out suckers. These should be removed by hand when small. For seed production a comparatively thin stand is preferred, never more than two stalks per hill, three and one-half feet apart each way.

The seed corn producer should conduct a breeding plot in such a way that it will give practical results in improving the quality and productivity of his corn. This work requires considerable skill and good judgment

to secure accurate results. Various conditions and changing environments tend to confuse his work, but by persistently following the best methods in vogue he can achieve considerable success in this work.

The saving of the seed is an important item. It should remain standing in the field until it is thoroughly matured and comparatively dry when it should be gathered as soon as possible. The corn for his own breeding purposes should be selected from the standing stalk, taking into consideration the characteristics of the stalk as well as of the ear. It should also be taken from his best bred plot or field. Considerable seed can be secured from his most desirable rows in his "ear to row" breeding plot. For commercial purposes the seed can be selected from the general field at gathering time and stored where it will thoroughly dry and keep dry. Sometimes it is necessary to store on shelves. When well dried it may be stored in shallow bins. Seed should never be selected from corn grown near a different variety of corn, as there is much danger of mixing for a distance of forty rods or more.

Every seed-corn man should make careful germination tests so that he knows that the corn he sends out will germinate well.

Great care must be used in the sorting of the seed, and much culling must be done. The first grade seed should consist of good looking ears, comparatively free from damaged kernels, and not shelled off much. It should be shipped in the ear. Second grade seed should consist of well bred ears that are comparatively true to type and possess good kernels. They should be butted and tipped, all damaged kernels removed, then shelled and graded.

Most of the corn crop must necessarily be culled out and fed to the live stock. Heavy yielding corn will produce a much larger per cent of good seed ears than a crop of moderate yield. Corn producing sixty bushels per acre will often have twenty-five or thirty per cent of good seed ears, while corn producing only forty bushels per acre will probably not have more than five or ten per cent of its ears that are good enough for seed.—W. R. Hildreth, President Kansas Corn Breeders Association, Altamont, Kan.

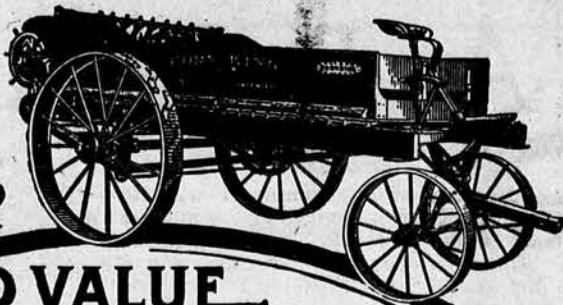
The Potato Crop.

While potatoes do not seem to have kept pace in price with other farm products, they may be ranked as one of the dependable crops on which a profit may be made every year by proper handling. Now is the time to begin to get ready to plant. The stored potatoes will soon begin to sprout and careful handling will be necessary especially for those that are to be used for seed. They should have been stored in rooms or cellars where the temperature could have been more or less controlled. The storage room should never be allowed to get lower than 36 degrees in the coldest weather, and from this time on there may be danger of its getting too warm and starting the sprouts too early. Where proper regulation of the temperature can not be had, and the cellars are warm and damp, the sprouting may be prevented by vigorously shaking the potatoes in a market basket and thus bruising the sprouts and preventing their growth, or else breaking them off entirely. After the danger of freezing is over, potatoes may be spread out on the barn floor or some other suitable place and allowed to sprout. If planted with little sprouts already started the growth will be more rapid.

In selecting seed the same care should be used as in selecting corn. Take only the best and largest tubers and do this year after year and there will be little complaint of potatoes running out. Some planters in the Kansas River valley prefer to buy their seeds from some northern state periodically and one planter states that he buys his seed for bottom land planting and from this crop saves his seed for upland planting and so makes one purchase of seed do for two years.

It is never wise to let the seed stand long after it has been cut. Some experiments recently made show that there is a very material loss when seed is allowed to stand a number of hours after the first 24.

BUY A MANURE SPREADER OF PROVED VALUE



Not an Experiment

GOOD MANURE SPREADERS are now so generally recognized as big money makers, time and labor savers, that the demand has grown by leaps and bounds. The result is that the market has become flooded with spreaders of slipshod quality. Therefore don't be influenced by extravagant claims when choosing your spreader. Look to the actual construction, the materials, the practical points of strength and operation. Look to the experience, equipment and standing of the manufacturer.

I H C Spreaders

Corn King Cloverleaf Kemp 20th Century

These spreaders of the I H C line have proved their value in actual operation in the hands of satisfied farmers everywhere. The 1910 patterns represent the development of study, experience and practical use. Their strength to withstand the hardest strains, their sure, steady, simple operation, their light draft—these features have been tested by us as well as by the farming world and found right.

Don't delay the day of realizing on the full value of every bushel of manure. Get a spreader now—and choose carefully. Buy the spreader of proved value—of uniform high quality. Buy the spreader that is built on the right principle, of the finest materials, by the highest class of skilled workmen, in the best manure spreader works in the world. If you do that, you will get an I H C. No other spreaders have ever done the work as well, as quickly or as easily as the I H C line. For no others are so good on any point of construction. You owe it to yourself to investigate the I H C spreader that meets your needs.

I H C spreaders are made in various sizes, from 30 bushels to 70 bushels capacity, and there is a style and size for every section and condition. Choose to suit your special requirements from the only complete line. Large spreaders for big operations—spreaders for orchards, vineyards—in fact, for every condition.

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We will give \$100.00 for the 9 best ears of seed corn sent us before Dec. 1st, 1910 by users of

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bought in 1910. Write today for full particulars, and ask for our FREE SPREADER BOOK, which proves that the Appleton Manure Spreader is as strong as steel and oak can make it; so simple that any boy who can drive a team can run it as well as any man; and so effective in operation that it never bunches the manure, but pulverizes thoroughly and distributes evenly from the beginning to the end of the load.

APPLETON MFG. CO.
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Kansas Farmer Ads Bring Results

APIARY

Introduction.

By way of introduction I wish to say that, after some correspondence with the secretary of the Kansas State Beekeepers' Association, and a number of my beekeeping friends, arrangements have been made whereby the beekeepers will be favored with a question and answer department in the KANSAS FARMER, and the writer will, for a time at least, have personal charge of it.

The beekeepers of this state ought to be glad of this favor of the KANSAS FARMER, and I hope that they will appreciate it, as they surely will, and that they will all join in making this new department of much interest and value.

Send all questions for this department direct to the writer, and they will be cheerfully answered in this department. But be kind enough not to ask me to answer by mail.

Let us, then, be up and doing; Thrift comes to those who strive. The bee that gets the honey doesn't loaf around the hive.—J. C. Frank, Dodge City, Kan.

Swarming Instinct.

The instinct to swarm seems to be a desire implanted in the bee to propagate and distribute its race. Whenever the honey-bee is cultivated the swarming season is of intense interest to the beekeeper. The cry of "bees swarming!" with the old time beekeeper, was attended with great excitement. It excited the old and the young, the cat and the dog, and in fact every living being on the premises, out come the tin pan, the horns and the bells. It was beat, rattle and toot, until the circling, buzzing, roaring insects settled.

In the spring when bees are breeding rapidly and honey is coming in plentifully, the hive becomes very populous, and they make preparations for swarming long before the swarm issues. They rear droves with a view to securing the fertilization of the young queens. Usually after drones are hatched and flying, and drone larvae capped over, they commence to construct queen cells. After the first queen cells are capped, if the weather is favorable, a swarm may issue. First swarms generally come out in the forenoon, but in case the forenoon should be unfavorable, and they should be ready to issue, they might venture out in the afternoon. In these matters bees do not always follow an invariable rule as many suppose. For instance, there are generally plenty of drones flying before the appearance of a swarm, but I have known swarms to issue when the drone brood was only capped over. Hanging out is not always an indication that the bees are going to swarm. They frequently hang out when they are building comb and rapidly storing honey. Weak and demoralized colonies frequently hang out, and have all the appearances, to a novice, of an over-crowded hive. Too much heat inside may cause them to hang out.

The beekeepers can not always tell the day the colony is going to swarm by simply looking at the hive; but generally, if watched on the morning of the day it is going to cast a swarm, he will find a great many bees flying with their heads toward the entrance, and will pass in and out, not like the workers going to forage, but showing anxiety and a disposition to hurry up the vent.

Just before the departure of the swarm the whole colony is greatly excited. The bees seem to be all confusion, scampering in all directions over the combs, and filling themselves with honey, and then rushing for the entrance. Old and young, out they come, pell-mell, tumbling over each other, and then circling in the air with a loud roaring noise. The queen may be among the last to leave the hive, especially if she is old, and after comes out after the bees are all in the air. The workers are the moving spirit in the matter. The idea that the queen leads the swarm, as some suppose is not correct.

After whirling around for some time they will generally settle some place and cluster. If the queen is old, or heavily laden with eggs, they usually settle on some low object like

bush, or a vine, but if the queen is a young one the swarm may settle at a more elevated place, or leave for parts unknown to the beekeeper.

In case the queen does not come out with the bees or they fail to find her, they will return to the hive to come out at another time. When the bees commence to settle you should map out, in your mind, how you are to proceed in hiving them. Procure your hive and prepare it for their reception. Go to the parent hive and take out a frame of brood (see that no queen cells are on it), and place it in the center of the new hive, taking out a frame to make room for it. This frame can be placed in the old hive in place of the one removed. I would advise filling every frame with a full sheet of comb foundation. Place a board up to the alighting board for a smooth roadway for the bees into the hive.

If you can not shake the bees directly in front of the hive, procure a tin bucket and a cloth; and with a whisk broom brush or shake the bees into the bucket. Quickly throw the cloth over it and carry it to the hive and tumble them into the hive by first removing the cover, or pour them out in front of the entrance. If the bees are slow to crawl in the hive, take a bunch of grass, or a sprout of a tree and stir them toward the entrance. Make them run in lively. Allow no clustering on the outside of the hive, brush them toward the entrance. When the queen goes in the rest will march in like a flock of sheep. After the great bulk of the swarm is in, you can carry the hive to the place you intend it to stand. This is better than waiting till evening, as is often done. What few bees are out foraging will either find the new location or return to the old hive.

When preparing your hive for the swarm, if you want the bees to confine themselves at first to the brood frames in the lower story, cover the top of the hive securely with the cover. In two or three days after the bees are hived, they should be looked at to see if they need room. If in need, give room by placing a super of sections on top, and give the bees access to them.

Sometimes several swarms may cluster together, and you may want to divide them. In such a case, prepare as many hives as swarms, and place them within easy reach of the cluster. Place an assistant at the entrance of each hive. After sprinkling the cluster, with water, proceed with a longhandle dipper to dip it full of bees from the cluster, and pour in front of one of the hives, then a dipper full in front of another, and so on until you get them equally divided. Your assistants must have each a queen cage at hand and look out for the queens, and see that only one goes into a hive. If more than one is placed before the hive, she must be caged and given to the hive that is queenless. In case several queens should get in the same hive, one will be killed, and sometimes I have known both to get "balled" to death by the bees.

Bees have a strange way of getting rid of strange or objectionable queens. They collect around her in an angry mass, forming a ball or cluster, with the poor queen in the center, and bite her wings and pull her legs until they worry her to death. If you wish to release the queen from the angry bees, the safest plan is to drop the ball of bees into a basin of water. When they become loosened, you can pick out the queen. Smoke often makes them more angry. If you use smoke to disperse them, rapidly blow a large volume of it upon the cluster, and as soon as they scatter, pick up the queens. When the queens are valuable and the beekeeper is unwilling to take any risk, he had better put them in introducing cages, and only release them, after the bees settle down to business.

In about six or eight days after the first swarm issues, a second swarm may come out with a young queen recently hatched. Sometimes when several queens are hatching at the same time, they make a peculiar sound called "piping." The noise is like the "peep" of a young chicken, and sometimes can be very distinctly heard if

the ear is placed against or near the hive, on the evening of the day before the departure of the swarm. One "peep" is a little coarser than the other, and is a reply to that made by a rival queen.

A third and even a fourth swarm frequently come out within a day or two of each other. All swarms after the first are called "casts" and should be discouraged by the beekeeper, as they often leave the old colony in such poor condition that it often fails to secure enough honey to winter on. One swarm from a colony is sufficient. It is best to return other swarms to the parent colony. All swarms after the first have young queens, and as such queens are not very matronly or steady, but good flyers, the swarm may be slow to cluster, and settle in some elevated place. In such cases, resort to a small fountain pump; and if the cluster is too high to reach, and the object they are on cannot be removed, you can dislodge them and collect them in a bag prepared as follows: Take a bag or sack and sew an iron hoop, a keg hoop will answer, around the mouth so as to keep it distended. Get a pole sufficiently long to reach the bees; sew a slot in the upper end deep enough to admit the hoop, and crowd your hoop into it. Of course, the hoop will be at right angles with the pole and the mouth of bag open. Now take the pole with the bag, and place the mouth of the bag immediately under the cluster, then with the end of the pole give the limb a good solid shake, which will shake the bees into the bag. Immediately lower the pole, which will also close the mouth of the bag. Now shake the bees out in front of the hive. The first time you may not get all the bees; repeat the operation until you secure the bulk of the swarm.

Sometimes a swarm may steal out to some unknown place in spite of all that you can do. Casts are more apt to do this than first swarms. Quite a number of observing beekeepers contend that bees often send out runners or scouts to secure and prepare a place for the swarm a number of days before it issues. In my experience I have never had any observations that would confirm or reject such a conclusion, and I have no right to disbelieve it, but I am pretty certain that the majority of absconding swarms fail to observe these precautions and are not so provided. Swarms that are slow to settle, and show a disposition to abscond may often be brought to cluster by throwing fine dirt or water in front of them.

Clipping the wings of queens is practiced by some beekeepers in order to prevent swarms from absconding, and to facilitate in operation in the apiary. This clipping is not to be resorted to until after the queen is fertilized and becomes an established layer. To perform this operation, the queen should be held by the thorax, between the thumb and fore finger of the left hand, and about one-third or one-half of one large or primary wing on one side cut off with sharp pointed scissors. Do not hold the queen by the abdomen. There are some objections to clipping. Clipped queens, to say nothing of the disfigurement, are liable to get lost in the grass when they come out of the hive. Besides, when they get on the ground they are liable to be devoured

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by ants. Hence it is necessary to be on the lookout for such occurrences. Newly hived swarms frequently refuse to stay in a hive because it is too hot. The empty hive should be kept in the shade, and should be clean and cool when the swarm is put in it, and then it should be protected from the rays of the sun. When the inside of the hive becomes too hot, the bees can not build comb, and must hang out.

Abnormal swarms are those that desert their hives because the bees become demoralized or discouraged for want of stores, or have too few bees. Weak colonies in early spring frequently swarm out, and desert their brood, even when they have some stores. Hence, in such cases it would seem to be demoralization. You may have them, but they will swarm out again, probably the same or next day. Your only way to treat such swarms is to unite them with some other weak colonies. Such demoralized bees often get angry at their queen if she refuses to accompany them, and will ball her to death.

To save swarms that may issue when we can not be watching for them, contrivances called "swarm catchers" and "hovers" have been invented that seek to direct the queen, after she gets out of her hive, into an empty one placed in close proximity to the full one. Were all queens alike in size they could be more easily and more certainly controlled by slots, or perforated zinc, but some queens that are very prolific are of small size and could pass an opening that would admit a worker bee.

The practice of ringing bells or beating plans, to make swarms settle is a very old but useless custom. It does no good, for they would settle of their own accord. The custom originated in the old country, where there was a law that required one to make a noise in order to notify his neighbors that his bees were swarming. Otherwise if the swarm settled on a neighbor's possessions it could not be claimed.—J. C. Frank, Dodge City, Kan.

WHY I BREED HEREFORDS

BY J. M. RODGERS, Beloit, Kansas

The success of one breeder points the way for others.

Whatever I say in regard to breeding Herefords, I do not want any other breeder to think that I am not friendly to all who breed cattle. I believe that the average farmer is controlled by circumstances in the choice of breed which he selects. Today I will try to tell you the circumstances that brought me to breed Herefords, and if I use the pronoun I very frequently I hope you will excuse it. There is one reason why I say that circumstances have a good deal to do in selecting a breed. Last fall at our fair in Mitchell county I was showing Hereford cattle and Berkshire hogs. One of our farmers, a breeder in the county, came to me and said: "Why, Mr. Rodgers, you have my ideal, I always wanted to breed Hereford cattle and Berkshire hogs. But all my neighbors were Shorthorn breeders, and so I started in to breed Shorthorns." I didn't object to his breeding Shorthorn cattle, but when he said his hogs ate chickens I told him our hogs had never acquired that habit. I couldn't stand for that chicken-eating habit.

When my father moved to town I went out and bought a one-half interest in the farm. We farmed that summer, and in the fall we looked for some stock. I went to Kansas City to a commission firm and asked them what stockers could be bought for. I was just starting. He went on and quoted stockers, and said, "Now, white faces will cost you 20 cents a hundred more." I said I didn't care whether they had white faces or not, or what the color of their face was, so they were good steers. I guess I showed my greenness right there. I began to think then, and got to thinking why white faces brought more money. But I didn't solve the problem at that time. I quit farming and got a position as a mail clerk on the railroad in 1887 and 1888. Out in western Kansas and eastern Colorado after a storm you would see those snow fences covered with dead cattle. They had died there from exposure during the storm. In the storm they had huddled together and just died there. In eastern Colorado there is a station where we use to get water. Near there lived a man who raised cattle. After a storm we noticed he had lots of hides stretched out, after every storm. Later I noticed a Hereford bull there. Then white-faced calves commenced to appear, and the number of hides grew less. He told me the reason he went to using a Hereford bull was that they did better with the average range cow than any other breed of cattle. That was the second thing that started me to thinking about breeding Hereford cattle. My first experience that led me to thinking about it was with the Kansas City commission firm.

A few years after that I was at home and I said to my brother that we ought to get a Hereford bull the next bull we got. We allowed some fellows to persuade us that some other kind was better than a full blood bull. Some years after that with my brother I was down at Kansas City and bought

three Herefords. That was the start of our herd. We haven't a very big herd now, but we hope to improve it. After that we started to breed full bloods, and we expect to keep it up. We started to feeding cattle. We would feed from 40 to 60 head. We had white faces which we noticed were always at the feeding trough, and the buyers at Kansas City would cut those out and give us the best price for those same white faces. That was another reason why we started to breed them.

Now, the next reason why I breed Herefords is that those circumstances were thrown around me. In Russell county I saw a Black Hereford breeder. I have noticed that the man, and he has a good herd by the way, has moved down to Lawrence to give his cattle higher education, and when I take up the paper and see various Chinese names and other foreign names I don't know whether it is one of Charlie Sutton's cattle or some foreigner.

In conclusion I want to give you the reason why I am going to continue to breed Hereford cattle. In selecting anything to breed into beef, I think that the first thing a man should take into consideration is constitution. I don't believe that there is a breed of cattle in the world having as good constitution as the Herefords. You can take the front quarters of the Hereford cattle, and I don't believe there is a breed of cattle in the world equal to the Herefords. I believe by intelligent breeding we can better them. That constitution makes them great hustlers. Our farm conditions are somewhat the same as rain conditions. We have all kinds of conditions. We have all kinds of cattle in pasture. The Hereford cattle go and get a drink and then go to grazing again. The others stand around the water. As feeders I don't believe they can be beat in the feed lot. They respond to the feeding of grain and make more gains than any cattle we have ever put in the feed lot. Another thing about the Herefords: Take us fellows in western Kansas every one is dependent a good deal on the crop for our feeding. Last year my brother and I picked up 44 head. They were yearlings. We thought we would feed them if we got a crop, we didn't get the crop, so didn't feed them. Now with Herefords you can feed them as yearlings, as three-year-olds, or any other age. For that reason it is better to feed them under our conditions. Another thing about them, and in one respect it is a detriment, is in perpetuating their characteristics. It is in some respects a detriment because wherever some people find a white-faced calf they call it a Hereford. I don't believe there is any breed that carry their offspring down with the same marks as do the Herefords.

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Seed grain, grass seeds, garden seed, onion sets, seed potatoes, stores at Paola, Kan. and Kansas City, Mo. Prompt service. Quality and prices right. Let us show you. Write today, sure, for our free catalog.

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SEED CORN FOR SALE.

First at Leavenworth, first at Topeka, three firsts at Leav. Co. Farmers' Institute, two firsts and sweepstakes at Wichita, three firsts and two sweepstakes at Hutchinson State Fair, first at State Corn Show, five firsts at Kansas City Inter-State Fair, seven firsts at National Corn Exposition, five being in open to the world class. All in 1909. First three successive years at state corn show. Immense yield.

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Leavenworth, Route 1, Kansas.

FOR SPRING SOWING. From locality where it grows best and most abundantly. Our seed won the gold medal at the St. Louis World's Fair in competition with the world. All our seed is native grown, plump and vigorous. Write us today for plump and vigorous. Write us today for

FROM OUR READERS

I think you are on the right track in calling upon your readers for what they know. It makes them feel as though they were a part of your paper. A good reader is a good writer. The one difficulty with too many farmers and live stock and poultry men is that they lack practice with the pen and in spelling. I think it is a good suggestion for each man or woman to write his knowledge of facts and experiences, let it be good or bad. I never learned so much from any writer as the one who wrote of his mistakes. We are more likely to get the truth from such an one than from the man who has made a glowing success. A good writer will stop when he is done, and will say what he has to say without too much wind. Get all the good articles you can and pick out the best ones but keep shy of the kickers. It is amusing sometimes to hear a good kicker kick, but not always profitable.—J. S. McClellan, Clay Center, Kan.

Condition of Wheat in Mitchell Co.

There is no doubt about the statement that the wheat is considerably injured in Mitchell county. The fields, or parts of fields that slope northward and were unprotected by snow during the most severe weather, are in the worst condition. Wheat ground that was plowed deeply and placed in proper condition has heaved very little and for such fields the harrow is the proper implement to use as soon as the frost is gone.

The farmers in this locality are realizing a good deal, just now, in pasturing the wheat unless perhaps, they are seriously injuring it.

The stock generally are living entirely upon the wheat and this is a great saving of high priced feed as well as being good for the stock.—W. A. Oakley, Mitchell Co., Kan.

Better Farming Would Help.

There is a good deal said nowadays about the price of meat, and the packer lays the blame on the farmer. The fact is, the packers pay the farmers what they please for live stock and charge the consumer what they please for meat. The prices for live stock have been so low that the farmers have quit raising stock to such an extent that there is a scarcity of stock. If the farmer could get anything like what the consumer pays he could get a better price for his product, and the consumer could get food cheaper. When stock goes to the stock yards it is at the mercy of the packers. The stock should be held at home until the packers were compelled to send a buyer to the farms to purchase the stock. Of course this could not be done without a union of the stock growers. The packers are responsible for the price of meat in the cities and the consumers help them to keep up the prices, for if a farmer organization should start a wholesale or retail business, the packers would start a rival shop and cut prices until they drove the farmers out of business, and the consumer would help to do it and then find fault with the farmer.

Wheat in eastern Colorado is worth 95 cents per 60 pounds; flour \$1.60 per 48 pounds, second grade. There are 12 pounds of wheat and 65 cents between the price of wheat and flour here, and the prices of bran and shorts are about equal to wheat. It seems there is too much profit in milling flour and meal. There are too many middlemen between the producer and consumer. It is time for a union among the farmers. Let the producer and consumer both have a show. Too many go to the city and not enough stay in the country. Better farming would produce more food. The land does not grow, but the population does.

I think that letter from J. G. Collins of Ness City, Kan., was good and the truth. It hits this part of the country exactly.—Ira J. Whippie, Jaqua, Kan.

Cut the Trash Up Well.

A farmer friend, who is a fine seed-bed enthusiast, is planning to rake and burn his corn stalks this spring. This we contend is a rather short sighted policy and one that will result in detrimental effects to the fertility of the field. This contention we base on the fact that the corn stalks and other trash, if plowed under, will decay and form humus,

which is necessary if the soil is to be productive.

We are willing to admit that harm will come from plowing under large masses of any coarse material. This is true of manure as well as corn stalks or straw or any kind of field trash. It is almost impossible to run a drill satisfactorily through a pile of trash just below the surface. The corn planter will slide or drag over it and leave the kernels exposed to the sunlight instead of covering them with a couple of inches of moist soil. Running a shovel corn plow through such places takes a man's temper quicker than a balky mule.

Humus is necessary. Its absence causes many a field that would otherwise be productive to be apparently worn out. The soil runs together, bakes and dries out, after a heavy rain, more rapidly when it lacks humus. Plant growth requires mineral elements, phosphorous, potassium, calcium and others as well as humus. There is enough of the mineral elements to last for a long time in most soils but the humus must be constantly replaced if the supply is to be kept up.

Instead of raking and burning the corn stalks we would break them and cut them up finely with the disk harrow. We would do this disking any field where there was any amount of trash or even where manure had been spread, even if it had been done very evenly with a spreader.

This disking not only cuts the trash up finely but it incorporates and mixes it with the soil in such a way that it will not interfere with the planter or drill or the cultivator. Furthermore, the finely cut particles around which the soil will pack will not cut off the rising of capillary water from below which is necessary to have a moist seed-bed.

The stalks must be broken if the best results in disking are to be secured. Of course they would be broken crosswise to the direction it is desired to run the disk.

The disk cutters must be sharp or they will ride over some of the tougher places without cutting. Sometimes it will be necessary to put a stone or heavy weight on each side of the disk. The cutters need not be set to throw a great lot of soil if it is not desired to do so.

This disking has another important effect which, although not strictly connected with the subject, is worthy of mentioning here. That is the effect the surface soil thus finely pulverized has in conserving the moisture in the soil. It forms the oft-described surface mulch and is an important factor if the field is not to be plowed for some time.—H. E. McCartney, Filmore county, Neb.

Distemper in Horses.

Distemper, or strangles, is a disease principally affecting young horses. It is due to a germ belonging to the streptococcus group. The disease is accompanied by high fever, catarrhal inflammation of the mucous membranes, especially of the nasal passages, and as a result of this condition, a discharge from the nose. There is a swelling of the lymph glands under the jaw, which later results in abscess formation.

A horse with distemper can communicate it to a healthy one.

The germs are found in the discharge from the nostrils and in the pus from the abscess which forms under the jaw and later breaks.

The majority of cases of distemper occurs before the age of five years.

The constitutional disturbances caused by the shedding of the teeth, and cutting same, as well as impure air in poorly ventilated stables, overworked and poorly fed animals, are factors that weaken the resistance and make infection possible to produce the disease.

The disease is more common in the spring and fall of the year, particularly the former, on account of the chill received as a result of the sudden changes at these seasons of the year.

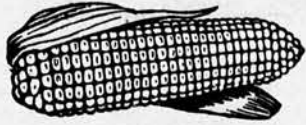
The disease can also be transmitted from dam to offspring through the milk.

The animal usually develops the disease in from three days to three weeks after being exposed to the contagion.

Animals affected with distemper



SILVERMINE
and Rieds Yellow Dent
OUR Seed Grows.
Grown from KANSAS
STATE AGRICULTURAL
COLLEGE breeding stock.
Maple Hill Farms
Earnest W. Young, Mgr.
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MAMMOTH WONDER CORN
Drouth and Bug Resisting. Fifteen Varieties
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from farm to factory.
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ease of action, large in the
legs and seat. Fitz Over-
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indigo dyed denim. The sus-
pender are the longest and widest made,
to prevent their rolling up in a hard rope
and cutting the shoulders. Write to us
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results it produces.

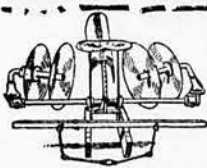
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are sold on 60 days' Free trial.
They are fully guaranteed and the
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Incubator Company, but also by
the Bankers' Surety Company of
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every Sure Hatch Incubator, insur-
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is actually sent to every purchaser
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The only one manu-
factured with a dust
proof bearing and re-
tains the oil for a
long time. It is
adapted for the culti-
vation of corn and the
working down of lister
ridges for wheat. Ev-
ery one guaranteed.

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ACORN BRAND—The Seed to Demand
Sure crop, profitable—500 to 700 lbs brush, and 25 to
35 bu. seed per acre. Market conditions indicate it
a profitable crop in Southwest this year.

Cow Peas Improve soil. Make good hay.
Cheaper than fertilizer. Write
for prices—surprisingly low—and 1910 Seed Book.
ROSS BROTHERS SEED HOUSE, 321 E. Douglas Street, Wichita, Kas.

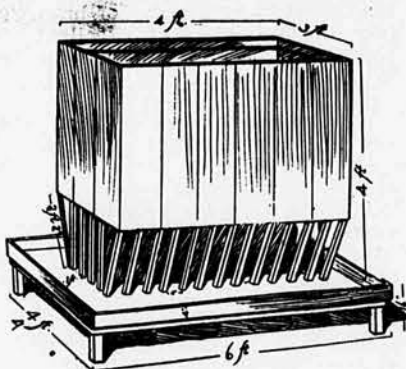
should not be sold. Young animals
should not be brought in contact with
those affected nor watered out of the
same bucket, nor come in contact
with any other property until it has
been thoroughly disinfected. An ani-
mal should not be castrated while
suffering with strangles.

A vaccine made from the specific
germ causing this disease is pre-
pared in the laboratory of the Veteri-
nary Department of the Colorado
Agricultural College.

This vaccine is very useful in com-
bating distemper, both as a preven-
tive and as a cure, and promises to
be of as great value as the anti-sup-
puration vaccine made in the same
laboratory from the germs which
cause poll evil, fistula, and wound in-
fections.

Like the anti-suppuration vaccine,
to get the best results it must be used
by one who is trained in the diseases
of the lower animals and understands
the use of vaccines on same. It is
therefore advisable to have it used by
a competent graduate veterinarian.—
B. F. Kaupp, Colorado Agricultural
College, Fort Collins.

Here is my plan for a sheep feed
rack, for hay or cut feed. I find this
rack very profitable, as the animals
cannot waste the feed. The bottom of
the rack should not be more than 4
feet by 6 to prevent the sheep from



crowding each other. This rack is
sufficiently large to feed 50 head, and
where more than one rack is required,
they should be set not less than 10
feet apart. The openings should not
be more than 4 inches wide, as this
will prevent the sheep from getting
their heads through.—C. G. Schwarz,
Baldwin, Kan.

Try a Few Cow-Peas.

Cow-peas have three values: as a
grain crop, as a hay crop, and as a
fertilizer. Produced in either way,
they are money makers, but the great-
est worth lies in their value as a
green manure or in rotation with
other crops. Cow-pea hay has a feed-
ing value nearly equal to clover or
alfalfa. The seed is very rich in pro-
tein and an excellent thing to grind
for balancing up a ration where some
concentrate is needed. In the rota-
tion of crops its great value lies in
its ability to secrete nitrogen from
the air in common with other mem-
bers of the legume family, and for
this reason it is especially valuable
for growth on wornout land or as a
preparatory crop for seeding alfalfa.
Professor TenEyck recommends the
Whippoorwill or the New Era as the
best variety, and if the crop is in-
tended for seed or for forage it should
be planted quite late after the soil
becomes warm, about the last week in
May or the first in June would be
about right, though if the crop is in-
tended for pasture or to be plowed
under as a green manure, it may be
planted after wheat harvest.

The seed-bed should be well pre-
pared, and if the peas are planted in
rows three feet apart, one-third of a
bushel per acre is enough, though
when planted in drills or sown broad-
cast a bushel per acre will be needed.
The yield is something enormous.
Three tons of hay per acre is com-
mon, while as high as 20 bushels of
seed per acre has been recorded, al-
though the average is less than this.
While the cow-pea is a more difficult
crop to handle than either clover or
alfalfa it has a unique value when
used as a green manure or grown in
rotation.



FREE This Valuable BOOK

It tells how to get those EXTRA bushels of
wheat that are all profit at \$1.00 a piece.

It treats of the Preparation of Soil, the Selection of Seed, and the Methods
of Seeding that bring increased yields of small grain. It is full of facts and
suggestions that will help you make more money this year.

Write us a card now, telling how many acres and the kinds of small grain
you grow, and we will forward you this valuable book, "More Grain From
Less Seed," at once, FREE POSTPAID. We will also send our catalog of

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progress in improvement to the position of practical perfection.

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dealer handles the Tiger, he can show you why it is best. If neither one of
them has a Tiger, we will tell you why and show you on your own farm. We
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President of Dodd &
Struthers, is the sci-
entist who has taught
the world how to con-
trol lightning.

Not since the days of Franklin
has any scientist done as much
to protect life and property from
the destructive consequences of
lightning as has

Benjamin Franklin,
the eminent scientist
who taught the world
what lightning really
is by a simple experi-
ment of kite flying.

Professor WEST DODD

the inventor of the D. & S. system of lightning rod construction. The
basis of this great claim is due to several very important inventions for
making woven copper lightning rod cable fixtures, and equipment for light-
ning rod construction. This system has given to humanity safety for the
home and family and protection to animal life and property.

EVERY TIME LIGHTNING STRIKES

You Are in Danger

unless you have D. & S. lightning rods on your buildings. You cannot afford
to take such chances. You need this protection for your home—for your prop-
erty. Like other lines of business and professions, there is a difference between
the real, the genuine, and the imitation or the cheap kind. You cannot afford
to accept dangerous substitutes when such important principles are involved.
You cannot afford to keep that good horse, or that good cow, or any other kind
of live stock, in unprotected buildings—much less the home, where the loved
ones abide. Think of it, man. You will not need to think long.

This is proof sufficient: 111 fire insurance companies report losses showing
2,960 fires in one year; 2,165 were caused by lightning, only 795 from other sources
combined. Think of it, 3 to 1. That is what we save you from.

This ought to be sufficient warning to you and important enough to warrant
quick action. You need lightning rod protection—you need the best. The best
is the D. & S. System. D. & S. means Dodd & Struthers. We are pioneer light-
ning rod manufacturers. Our Woven Copper Cable, invented and exclusively
controlled by us, has given the lightning rod business a respectable place among
merchants and professional men everywhere, because it is right—right in qual-
ity—nothing but pure copper wire used; right in method of construction, it fur-
nishes one of the best and most lasting conductors in lightning rod construction.

Our great book written by Prof. Dodd, entitled "The Laws and Nature
of Lightning," is yours for the asking. Write for it now. Spring
storms are coming. Do not delay. Such delays are dangerous.

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QUEEN GALVANIZED IRON CUPOLA

Gives perfect ventilation in your barn—saves you money—constant up-draft
gives fresh air circulation for your stock. Rain and snow cannot beat in and
spoil your hay and grain—birds cannot get in. Costs less than wooden cupola;
fits any barn; easily put on; each cupola furnished with gold leaf weather vane.
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UNTIL YOU INVESTIGATE "THE MASTER WORKMAN,"
a two-cylinder gasoline, kerosene or
alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs
less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction
engine. Send for CATALOGUE. **THE TEMPLE PUMP CO., Mrs. Meagher and 15th St., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.**

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See our No. 1018
Automatic Lift
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NO OTHER LIKE IT NO OTHER AS GOOD.

Buy the machine manufactured for long service. Those who used the NEW HOME forty years ago are now doing so. All parts are interchangeable, can be renewed any time. Ball Bearings of quality.

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New Pattern. Solid Channel Steel Frame

Channels are seven inches which is the height of platform from ground. Levers are octagon in shape giving greater strength. Bearings are Toolsteel. This Scale will last a lifetime with ordinary care. Equipped with compound Beam Free. Furnished absolutely complete except platform planks. Guaranteed accurate and tested to more than its capacity. Write for our prices and description before buying.

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Don't Kill The Hen That Lays The Golden Egg
By setting her to hatching chicks. You can't afford it. Keep your hens busy laying and let the Fairfield Incubator and Brooder hatch and raise your chicks for you. They will do it a lot better, easier and cheaper. The Fairfield never leaves the nest in the middle of the hatch like your hens and some inferior incubators do. It's the world's best hatcher—my customers say so. Let me prove it to you at my risk.

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Try the Fairfield first before you buy any other style or make. You can do it if you wish for two hatches free at my risk, in your own home with the money in your own pocket. It's the safest way to test our Incubator. The sure way to get what you want.

No Other Incubator Like Mine
It's built right, works right at all times, perfect in workmanship and

Strongest Built, Best Looking, Easiest Operating, Biggest Hatching Incubator In The World

That's what my customers call it. Their experience has proven it to be all that for them and you too. Now isn't that the kind of incubator you want in your poultry business? Just let me send you a Fairfield to try for two full hatches free in your own home. I guarantee it to give you bigger hatches and better chicks than any other incubator made, or your money back and I will pay the freight. You can't beat this offer anywhere. You can't beat the Fairfield Incubators and Brooders at any price. Let me prove it to you at my risk. Write for catalog and special free trial offer today.



Best quality of material. The Fairfield is made out of California Redwood. Copper steam and water patented heating system. Perfect regulator. Best lamp in any incubator made. Large roomy nursery and egg chamber. Double doors. Unobstructed top. In every way as good an incubator as you can buy at any price. Our direct-to-you-price saves you one-third to one-half. Write for catalog and special offer.

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It will solve the incubator problem for you and will save you trouble and worry in the future. Will give you bigger hatches and stronger chicks than any incubator made. It's absolutely guaranteed and just the machine you need.

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Fill it out and mail it at once. It will bring you my new catalog and Poultry Book FREE and my special free proposition that beats anything you ever had.

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177 Main Street, Fairfield, Nebraska.
Dear Sir:—Kindly send me your free trial offer on your Fairfield Incubator.

Name..... Town..... State..... R. R.....

Best feed for your baby chicks

It is no trouble to hatch chickens, but it takes the proper Feed to raise them: use **Otto Weiss Chick Feed**

a complete balanced Ration; it develops bone, flesh and feathers, saves your Chicks, and they make a rapid growth. Send for circular and prices on Poultry Supplies

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WHITE PLYMOUTH ROCKS

(EXCLUSIVELY.)

For 18 years I have bred White Rocks, the best of all purpose fowls, and have some fine specimens of the breed. I sell eggs at a reasonable price. \$2.00 per 16, or \$6.00 per 45, and I prepay expressage to any point in the United States.

Topeka,

THOMAS OWEN,

Kansas.

POULTRY



The welcome sound of the cackling hen is now heard in every poultry yard.

And with this sound comes the thought of the setting hen and spring chickens.

To keep the hens laying keep them busy by scattering the grain in lots of litter.

All chickens are better for a little extra care during unsettled weather. After the season advances they will not require so much looking after.

Fowls will eat lots of alfalfa leaves in their dry state and it is good feed for them but they like it better when it is scalded and some cornmeal mixed with it. It is well to salt it.

Bran is excellent for poultry but the hens like it better scalded than dry. To make it stick add a handful of linseed meal to every pint of bran. The two substances are an excellent combination and will greatly aid the hens in producing eggs.

It is time you were deciding where you are going to get eggs for your spring's hatching. Breeders cannot always send eggs in a day's notice, so it is better to order a couple of weeks before you need them. Specify the date you would like them and the breeder will govern his orders accordingly.

Who can estimate the possibilities of a setting of pure bred eggs? Who can tell how many first prize birds may be contained in such a setting? No one, unless they have tried it and succeeded in winning several prizes from the chicks hatched from one setting of eggs. Suppose you send and get a few settings and try your luck.

Be on the lookout for lice or before you know it your young chicks will die off faster than you can hatch them. Keep the poultry house clean, the roosts kerosened frequently and the old hens and chicks dusted with Persian insect powder. To be forewarned on this lice question is half the battle for frequently many of the young chicks die before one knows what is the matter with them.

Those who have never fed cut alfalfa to their fowls cannot imagine the saving of their feed, that a liberal supply of it will make. It will save nearly half the feed, besides leaving the hens in a far more healthy condition than an all grain feed. And to save feed these days is to save gold for we never have known chicken feed to be as high priced as it is at the present time.

If you do not discard all but one breed of fowls this season, at least make one breed prominent and endeavor to raise a large lot of chickens from that variety. In the fall you will find it much better and more profitable to have a large number of one variety than dribbles of half a dozen varieties. If you want to test or experiment with a new breed, that is all right, but make it a side issue, don't let it interfere with your principal breed.

Sour food is the worst thing a chicken can eat. Not only does it supply no nourishment but it taxes the strength already gained to rid the system of it, thus compelling the little body to draw on its reserves and take a step backward. It is easy to see that this is poor economy if we want the chicks to grow. A very common mistake is to mix up too much food and save that which is left, to be fed the next time. By the next time that food is well on its way to sourness, if not already sour, and by using it there is much danger. It is very easy to avoid the improper and sour food rack. Simply mix so much food as will be eaten up clean and let it be absolutely fresh. The same rule applies to feeding chicks that we have so often recommended for feeding fowls. Feed only what will be eaten up quickly and eaten up clean; if any

food remains uneaten five minutes after feeding they have been overfed. Feed a little and often is the successful rule with chicks.

Modern Methods in the Poultry Yard.

When my boy came home from college, writes a friend, he seemed to have an idea that contact with the minds of the poets had raised him too high to have anything to do with the humble chickens which had paid his board bill while he was getting in line with the higher criticism and the theory of the relation of the ego to the cosmos, and that a nice position on a newspaper or in a bank would about give room for his budding talents to burst into bloom. I told him that I never saw anything, talent or otherwise, which was any harder for being budded under glass, and that I felt he could fill a long-felt want right there on the farm. I was a little uncertain whether his clothes wouldn't scare the hens into hysterics, but I gave him a pair of overalls and set him cutting green feed, hoping he wouldn't try to teach the roosters his college yell. He worked away for two or three days, without saying much, though I could see something was troubling him; then he came to me.

"The trouble with our yards, Dad," said he, "is that we don't apply scientific principles to them."

I told him I always used a level on the chicken house floors, and a square in making the corners.

"You don't understand," said he. "What I mean is, that we should have more discipline; we should be stricter with the chickens. Business nowadays must be run on a business, and not on a friendly basis."

I could see from the free, careless way in which he spoke of business relations with a chicken that he had never tried to drive a four-months' pullet through a gate, but believing that experience is the best school I told him to go ahead and put things on a business basis. All that day he was sort of thoughtful, and next morning when I went out into the chicken yards I found a notice tacked up in a prominent place, which said:

"NOTICE!
"Owing to a partial change in the management of the I. X. L. Poultry Yards, it has been found necessary to put the following rules into force. We trust we will have your cooperation in carrying them out:

"Rule 1: All chickens must be out and scratching by sunrise every morning. Any chicken caught sleeping after eight o'clock will be severely reprimanded.

"Rule 2: No profanity or boisterous conduct will be tolerated among the cockerels; any cockerel caught out after nine p. m. will be ostracized.

"Rule 3: Hens, on laying eggs will at once take them to the stockroom, and receive egg-checks for same. These egg-checks must be presented at feeding time in order to receive rations. No Lay—No Pay. Roosters will receive rations if 50 per cent or more of their hens have egg-checks.

"Rule 4: Hens laying two eggs in one day will receive an extra merit card. Ten merit cards entitles bearer to be killed and eaten by the Boss.

"Rule 5: If heavy orders should require night work on this ranch, it will be paid for at the rate of two egg-checks per egg. No night lights will be allowed in the coops, however, except in case of sickness.

"Remember that your interests are our interests. Let us all pull together for better service, more and larger eggs."

I put my boy at work in a bank. He had too high ideas of science for the poultry business.—Green's Fruit Grower.

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Grinds more ear corn or small grain, with less power, than any other mill. Doesn't warm the feed. Lathes centered burrs may be changed in three minutes. Try it 20 days free.

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POULTRY PROFITS DOUBLED

If you want \$2 profit where you now get \$1, either from eggs or poultry for market, simply send us your name and address and let us tell you the real poultry secret that has doubled the profit of poultry raisers. It is the only real way to poultry success. Make every fowl a profit earner. Write at once for this information whether you have 3 fowls or 300. It's free to you. Blanks & Hawk Supply Co., 145 Blanks Bldg, St. Louis, Mo.

S. L. WYANDOTTES. We have a few more birds for sale. Eggs \$2 for \$15; \$5 for 45. Incubator eggs \$5 per hundred. M. B. Caldwell, Broughton, Kan.

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WHITE PLYMOUTH ROCKS—10 cockerels and a few pullets for sale. Eggs \$1.50 per 15. \$2.50 per 30. J. C. Bostwick, Route 3, Hoyt, Kan.

BUFF ROCKS—Vigorous farm raised prize winners. Eggs by the setting or hundred. Circular free. W. T. and Mrs. C. W. Ferris, Box 406, Effingham, Kan.

BARRED PLYMOUTH ROCKS. Bred for beauty and profit; \$3. regular premiums. Eggs: 15, \$2.50; 30, \$4.50; 60, \$8.00; 15, \$1.00; 60, \$3.25; 100, \$5.00. Mrs. D. M. Gillespie, Clay Center, Kan.

BUFF COCHINS For sale, cockerels, \$5 up. Females, \$2.50 Trios, \$10.00. Won 27 prizes in 1909. J. C. BAUGHMAN, Topeka, Kansas.

PURE BRED WHITE WYANDOTTE eggs, from prize winning strain, \$1 per 15; \$5 for 100. MRS. H. S. ADAMS, Route 8, Wichita, Kan.

S. C. R. REDS—First pen headed by first cockerel at Kan. state show; 2nd by winner at Mo's. best show. Eggs from either pen, \$3 per 15. Third pen, \$2 per setting. DeLox Chapin, Green (Clay County), Kan.

BARRED ROCKS—High class show and utility stock. Pen eggs \$3 per 15 \$5 per 30; utility \$4 per hundred. Send for circular. No stock for sale. C. C. Lindamood, Harvey County, Walton, Kan.

THIS ADVERTISEMENT IS GOOD for 25 cents on two settings of eggs from four leading utility breeds. Send postal card for prices and score of birds. J. S. McClelland, Clay Center, Kan.

EGGS FOR SALE from fancy S. C. Buff Orpingtons. Pen 1, \$3 for 15; pen 2, \$2 for 15; farm range, \$1 for 15; incubator rates, \$5 per hundred. MRS. S. T. WHITE OF WHITE BROS., R. No. 1, Buffalo, Kan.

PURE SINGLE COMB BROWN LEGHORNS. Eggs from prize winning stock. Eggs well packed, 30 for \$1.50; \$4.00 per 100. A. G. DORR, Osage City, Kansas.

D. W. YOUNG STRAIN of S. C. White Leghorns, prize winners at three state shows. Eggs \$1.50 for 15; \$6 per 100. Barred Rocks, "Ringlet" strain, \$2 for 15 eggs. Eggs packed with care. C. H. McALLISTER, Carmen, Oklahoma.

S. C. BUFF LEGHORNS No more stock for sale, but eggs from prize winners. Pen 1, \$2 per 15; pen 2, \$1.50 for 15; incubator lots, \$6 per hundred. CEDAR GROVE POULTRY FARM, M. KLEIN & WIFE, Props., Clay Center, Kansas.

THE EGG SEASON IS ON. We are shipping every day from all the leading varieties of poultry. Large flocks on free range; orders filled promptly. My own special egg crate used. Price \$6.00 per 100. M. B. turkey eggs \$2.25 per 9. Write for circular. Address: Walter Hague, Fairfield, Neb.

EGGS! EGGS! EGGS! from 59 of the leading varieties of land and water fowls; stock for sale. Send 2 cents for my big 1910 catalogue. Henry Pfle, Box 754, Freeport, Ill.

EGGS EXTRA WELL PACKED. \$1.00 for 15; \$5.00 per 100. From White Faced Black Spanish, Leghorns, Wyandottes, Rocks, Rhode Island Reds, Light Brahmas, Black Langshans and Black Tailed Japanese Bantams. Each bred on separate farms. Circular free. H. W. CHESTNUT, Centralia, Kansas.

EGGS, CHICKS. S. C. White, Brown and Buff Leghorns and R. C. R. I. Reds. Bred from heavily laying and winning strains. Eggs for hatching and day-old baby chicks. Book your orders now for future delivery. Write for circular and prices. **PROSPERITY POULTRY FARM,** Barnes, Route 2, Kansas.

TWENTY-ONE VARIETIES TO SELECT FROM. Won \$1,500 in cash prizes this season at American Royal, Pratt, St. John, McPherson, Larned, Hutchinson, Electric Park, Enid, Garden City, Shawnee and Kansas State Poultry Show, Wichita, 1910. Stock from 3,600 eggs to select from. Write **MR. AND MRS. OTIS H. CROW,** Hutchinson, Kansas.

WE LAY FOR YOU Smith's Barred and White Rocks. Send for mating and price list. **CHAS. E. SMITH,** Baynesville, Box 8, Kansas.

BARRED PLYMOUTH ROCK EGGS. Pen 1, \$2 per 15; 3 settings, \$5. Pens 2 and 3, \$1.50 per 15. Range, \$1 per 15 or \$5 per 100. **MRS. CHAS. OSBORN,** Member A. P. A., Eureka, Kan.

DEATH TO HEAVES Newton's Heave, Cough & Distemper Cure. Guaranteed or Money Back. \$1.00 per can, at dealers, or Express Paid, 18 Yrs. Sale. **THE NEWTON REMEDY CO.,** Toledo, Ohio.

Send for Booklet **How to Treat Horses** **Newton's** Heave, Cough & Distemper Cure. Guaranteed or Money Back. \$1.00 per can, at dealers, or Express Paid, 18 Yrs. Sale. **THE NEWTON REMEDY CO.,** Toledo, Ohio.

Prof. Ralph H. Marshall of the Colorado Agricultural College, reports on a number of experiments which had for their object the water-proofing of mortar and cement. There are many cases where this is absolutely necessary, as in a store house for grain the floor of which is in direct contact with the ground. The same necessity exists in the case of cisterns and cellar floors. He finds that one part of cement, 2 1-2 pounds of clean, sharp sand, and 3-4 of a pound of powdered alum for every cubic foot of the sand gives good results if mixed when dry, and then moistened with water in which has been dissolved about 3-4 pounds of laundry soap to each gallon. The water should be hot. This mixture tends to decrease the strength of the mortar but increases its damp resisting qualities. Another method is to use 1 pound of lye and 3 pounds of alum dissolved in 2 gallons of water and applied with a whitewash brush. If the walls are built below the surface of the ground an application of two coats of coal tar on the exterior will be found effective.

The new department of milling at the Agricultural College would seem to meet with the approval of everybody if the comments from millers and farmers in different parts of the state are to be accepted as a general expression of opinion. The work proposed for this department is not new as it has been carried on for about four years in the Experiment Station at Manhattan. The results of this work have been so important and the need for further work is so pressing that the College authorities have secured two experts who will devote their entire time to a study of wheat and its milling qualities in connection with the study of other grains. The principal aims of the investigations now under way are to discover the connection between the composition of wheat and the quality of the bread produced from it. In studying this question, the different conditions which effect the quality of the wheat and the flour will be studied by the aid of chemistry and of some special apparatus which has been perfected by the head of this department. Up to the present time about 80 complete milling and baking tests with patent, break, and tailings flour have been made. The baking is done in specially constructed electric ovens in pans prepared for the purpose and by a heat that is under absolute control. This work will now be broadened in its scope and instruction will be given to both millers and farmers. Co-operative experiments will be carried on with various milling companies and also with commercial bakeries in the state in order that a comparison may be made with laboratory results. Reports of the work will be given out from time to time in the form of bulletins and by lectures.

Harrowing Wheat. I would just like to ask what you think of harrowing wheat at this time of year. I notice that most of the land is badly cracked and I have thought that it would be a good plan to harrow the wheat and fill those cracks and make a sort of a dust mulch, so I would be glad to hear from any one that has had experience of this kind.—G. F. Trumbull, Rooks county, Kan.

It is difficult to answer this question without knowing the condition of the wheat in your locality. If the wheat has suffered from winter killing, a harrow would do damage rather than good, as it would pull out the plants which have been loosened by frost. We suggest that the use of a roller on the wheat field will accomplish better results in firming down the land, creating a dust mulch, and filling up the cracks. We should be glad to hear from others of our readers.

Misrepresented Sorghums. Recently an Oklahoma man has been selling at 50 cents a pound seed grain of what he calls "California wheat" which he declares will produce 200 to 400 bushels per acre. This is a variety of sorghum known as Shallow which, after thorough test a few years ago, proved only about half as productive as Kafir corn. It is also inferior as a forage crop.

Another misrepresented sorghum is a so-called "chocolate corn" accounts of which have appeared in the press at different times. The plants which have sometimes received that name

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Johnson's Incubator has made more incubators than any three men in America. He knows how to make them to hatch for the novice or expert. His 10-year guarantee makes you safe. Address for book: **M. M. JOHNSON, Clay Center, Neb.**

\$7.55 Buys the Best 140-Egg Incubator Ever Made

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Both incubator and brooder, ordered together, cost but \$11.50. Freight prepaid. The Belle City Incubator has double walls and dead air space all over, copper tank, hot-water heat, self-regulator, thermometer, egg tester, safety lamp, nursery, high legs, double door. The Belle City Brooder is the only double-walled brooder made, hot-water heat, platform, metal lamp. No machines at any price are better. Write for our book today, or send the price now under our guarantee and save waiting. Satisfaction Guaranteed.

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That's the fairest, squarest offer I know how to make. Send the postal now that gets my Catalog and Liberal Plan.

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FENCE MADE. Built strong chick-ten-tight sold to the user at Wholesale Prices. We Pay Freight. Catalogue free. **COILED SPRING FENCE CO., Box 255, Vincennes, Indiana.**

were simply varieties of sorghum, probably in most cases the Early Amber sorghum.

The Department of Agriculture at Washington has just issued two bulletins giving full information about the different varieties of sorghums including Kafir corn, broom corn and others. These are free.

AMERICAN FENCE

Made of Hard, Stiff Wire, of Honest Quality

Fences Cost the Least and give the most returns of any improvements on the farm

Look around and see the farmer who has money in the bank and who buys another quarter-section every few years. See his farm—it is fenced hog-tight. What is good for him is good for you. Enough feed is wasted on the average quarter-section of unfenced fields to feed a large drove of hogs.

Any American Fence dealer will quote you figures that may astonish you on fencing your farm with heavy, hog-tight fence. You have no idea how little money it takes, considering what you will actually save.

American Fence is made of hard, stiff steel. It is made of a quality of wire drawn expressly for woven-wire-fence purposes by the largest manufacturers of wire in the world. Galvanized by the latest improved process—the best that the skill and experience of years has taught. Built on the elastic, hinged-joint (patented) principle, which effectively protects the stay or upright wires from breaking under hard usage.

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NOTE—Dealers Everywhere. See the one in your town and have him show you the different designs and give prices. Also get from him booklet entitled "HOW TO BUILD A CHEAP CONCRETE FENCE POST," furnished free for the asking.

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For Rabbits, Chickens, Hogs, Sheep, Horses Cattle. 160 styles. Big heavy No. 9 galvanized Coiled Spring rust proof wires. Will defy stock, wind and weather. Free sample & cat'g. 15 to 35c per rod. We pay freight. **The Brown Fence & Wire Co., DEPT. 39 Cleveland, O.**

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The wheels and gangs both angle together and in the same direction by means of the foot levers, which are operated by a straight, forward push. The wheels can be pivoted in either direction, and it is impossible for the gangs to scrape the wheels as the foot levers have stops. The gangs are raised by the horse-lift movement, the team taking the work of raising the gangs, and at the same time balancing the frame.

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"I wish I didn't have to stay at home always," and the fair little princess of the Land of Nod laid her face in her hands and wept. This princess was a very beautiful young lady, with long golden locks and clear blue eyes. Everyone loved her, even little fairies from Fairyland loved her so much that they would come to play with her and to make her happy.

"Where do you want to go now, my dear? You have just returned from a trip around the earth," said a beautiful old fairy who always tried to grant the little princess' wishes.

"Oh, you dear old fairy. Your face is so beautiful and your voice so sweet, and your heart so kind," began the young princess, raising her beautiful eyes until they met those of her fairy friend.

"Tut, tut—nonsense, my dear. You must not flatter me so," and the old fairy laughed and flitted gaily about the room.

"But it's true, Fairy, it really is." "Where does my little spoiled pet wish to go?" asked the fairy again.

"I've heard about a star, a planet I think they call it, away up in the heavens—don't laugh, you dear old fairy—and they said its name is 'Mars' and that it's like this earth—and I do want to go there, oh, so bad!"

"Ha, ha! My little girl has gone crazy! Why, my Princess, no one can ever go there. It's too far. It would take thousands of years to go."

"Oh, but I want to go," persisted the young princess.

"You could go only a small part of the way before you die, even if you should live to be ninety years old."

"But couldn't I go in an airship or balloon?"

"Ha ha! You go very far off the earth, and gravity will pull you back. You know when we throw a stone up it always comes back to earth—because gravity pulls it. And even if there were no gravity, your airship or balloon could not sail to Mars, for it would have to sail through a great space without air. And you could not live without air, my dear. No, it is impossible. I cannot grant this request," and the wise old fairy danced about the princess.

"But I know there's a way. You know, 'Where there's a will there's a way,'" and the princess laughed merrily.

"Well, I'll do all I can for you, and the good old fairy chuckled to herself as she flitted out of the room.

Presently she returned, bringing in—

"Oh, dear! What horrible creature have you now, you wicked fairy?" screamed the fair princess.

"My little Princess, this is my friend Mr. Wizard. Perhaps he can grant your request," said the fairy.

"Oh, can you?" and the good princess smiled.

"Yes, you want to go to Mars, don't you?" he asked. The princess noticed that his voice was kind, though he was very homely.

"That's where I want to go," she replied.

There is only one way for you to get there, and that is for you to go with me," he answered.

"Go with you! You're so homely and fearful to look at. I never could do that," and she shuddered.

"Very well then," and the old wizard limped out, his back humped, his face wrinkled, his hands pinched, his legs bowed, his hair long, tangled and shaggy—his eyes only were pleasant. His clothes were shabby and soiled.

"I'll go, I'll go, if you'll only wait," shouted the princess, running after the wizard, "but are you sure you can take me safely?"

"Yes, if you'll go with me. I know I'm very homely, but I did not have the good fortune to be beautiful as you are," answered the wizard, turning on his heel.

"My good Fairy, I fear I cannot endure such a homely companion. You know I am unaccustomed to any but beautiful people," and the princess be-

gan to argue in her mind whether she would go with such a creature.

"You know, my dear, people can have handsome hearts without having handsome features," replied the old fairy, wisely.

"You need not go if you don't want to," said the old wizard, preparing to leave.

"Oh, but I do. I guess maybe I can endure you. You rather shocked me at first, is all. I'll be ready immediately. How soon will you?" and the princess skipped away.

"I'll be waiting here for you. I have only to get my steed and some food for you on your journey," and away he ran, his face lit with a smile which was not altogether homely.

Presently, when the little princess skipped out, with a cloak around her shoulders and a tiny cap pulled over her golden curls, she found the wizard waiting, as he had said he would.

She looked about, and seeing nothing but the wizard and a broom, she asked: "Where is the coach? I thought I would ride in one and that you would drive."

"No; coaches cannot sail without wings," he replied.

"Then how am I to go?" she asked.

"Witches and wizards ride on broom sticks, Little Princess," returned he.

"Well?" she questioned, for even that did not explain how she should go.

"I get on the broom stick and you get on behind me and cling very tightly. See?"

"Yes, but I'm afraid I'll fall off."

"You won't fall, if you hold on. Now then, we're ready to sail. Go to Mars, my faithful steed," said he, touching the broom, and they began ascending.

"Oh!" exclaimed the princess, looking down and being hardly able to see the earth, "how fast we go!"

"Yes. No humans could ever go so swiftly. They could not live if they were going as fast as we. We are going almost as fast as light travels," he replied.

"And how fast is that?" she asked, clinging very tightly to him, lest she fall.

"One hundred and eighty thousand miles per second," he answered.

"Dear me! How soon will we be there?"

"In a few minutes."

"Why! My old fairy said it would take thousands of years!" she gasped.

"Yes, it would—for humans and fairies—but, witches and wizards are different," he replied.

"How beautiful it is up here among the stars! Won't you tell me all about them?" and she looked about her with a smile on her face, all the time clinging tightly to the wizard.

"Since you asked me, I will be glad to tell, but I must not tell much about any one thing, or I could not tell about all, for you see we arrive in a few minutes."

"Do hurry, then," she urged.

"Well, there are eight planets—all somewhat resembling our earth—and many asteroids and satellites all revolving around the sun. He is the center of the Solar system. Some planets that revolve around him are very near, while others are very far. Look towards the sun—do you see that star, which does not twinkle?"

"Yes."

"That is a planet. People call it Mercury. It is small, but very bright and always keeps near the sun. Now, if you look back again—we have to look back because they are towards the sun and we are going in the opposite direction—you will see another star which is larger."

"Oh, yes, how beautiful it is!" she exclaimed.

"Yes, her name is Venus. She is

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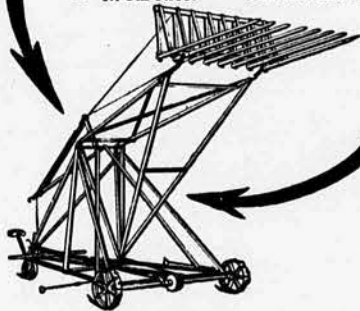
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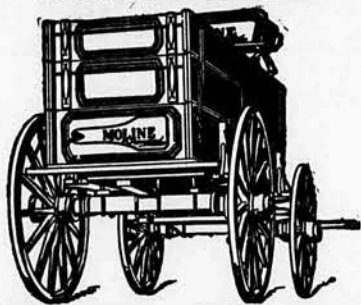
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the most beautiful object in the heavens. Atmosphere surrounds her, and she is very much like our earth. Some old astronomers thought that a satellite—a smaller planet—followed her, but wiser astronomers of modern times disagree with them—and the earth comes next. You know about her, don't you?"

"I think so," she replied, "go on."
"Now look forward. There is Mars. Do you see him?"

"The nearest bright star that doesn't twinkle?" she asked.

"Yes."
"Then I see Mars," and she would have clapped her hands but for clinging tightly.

"I won't tell about him, for we shall see him presently. Now look beyond. What do you see?"

"Hundreds of little planets."

"Yes, there are hundreds, but they are too small for planets. They are asteroids. Some wise astronomers say that once there was a planet whose orbit was just outside that of Mars and that from some unknown cause it exploded, and so went into many pieces. Many of these asteroids are of odd shapes, instead of being spherical, as all the planets are."

"But what makes them think there was a planet there?" asked the princess, who was all attention.

"Because each planet is a certain relative distance from the ones around it. By this law of relative distance there should be a planet exactly where those asteroids are. It is just twice as far as it should be from Mars to the next planet. Look beyond the asteroids. Do you see that monstrous planet?"

"Yes; I see no other so large."

"People call that one Jupiter. It is so large that all of the other planets, taken together, would be only two-fifths as large. It is so far away from the sun that it takes nearly twelve years for it to revolve around it once, so each of its seasons is nearly twelve times as long as ours. Galileo, one of the most noted human astronomers, discovered four small satellites which revolve around Jupiter. Now look further," he said, pointing forward, "to that planet with a disk around it. That is Saturn. She is 872,137,000 miles from the sun and it takes twenty-nine years for her to revolve once. She is the only planet surrounded by a ring, which is very bright. Some astronomers think it is composed of satellites intermixed with vapor. Now look further. You can hardly see this one, it is so distant."

"I see a small speck."
"This one is Uranus. It is over a billion miles from the sun. It was discovered in the eighteenth century by a human called Herschel. Now look further."

"I can see nothing."
He clapped a pair of glasses over her eyes. "Now look."
"Now I see plainly another bright star."

"That one is Neptune. It is the remotest and was just lately discovered. But—here we are. Stop, my steed, and let us off," and immediately the broom stick stopped and they were on soil.

"Oh, are we at Mars?" asked the princess.

"Yes."
"I didn't notice we were close to it. I thought it was a star, but it's just like our earth! And there are some people! I believe we are on the earth."

"No, little Princess, we are on Mars."

"It's very nice here, but I like the earth just as well. But how does it happen? My old fairy said I would have to go through a long space without air and that I would die."

"We did go through thousands of miles without air, but I was careful to put a magic envelope about us, which is invisible, but which held air for us."

"Oh! Well, I'm ready to return."

"So soon?" asked the wizard.

"Yes."

"You'd better eat some of this cake. I brought it along for you," he said.

"No, thanks. I'm not hungry."

"Whee! Hurrah!" he shouted.

"What's the matter with you?" she asked, excitedly.

"Jump on the broom behind me," he commanded.

She did and he said: "My steed, take us to that grove yonder."

In an instant they were there.

"How grand! We're in a melon patch—that is, they look like melons, though they grow on trees. I don't think they would prosecute us if we eat only one do you?" asked the princess.

"No, I don't think they will." With this the wizard climbed up into a tree, preparing to pick one, but before he had reached the top half the fruit had fallen to the ground and had broken into many pieces. He scampered down and hastened to eat.

"De-licious!" exclaimed the princess, eating a red, juicy heart.

"Thought you weren't hungry," laughed the wizard.

"I wasn't hungry for cake," and she smiled at him for the first time.

"Who's that?" exclaimed the princess, spying a great creature (who she supposed was a native of Mars) running towards them. His legs were so long that they measured almost a quarter of a mile at every step; his two great eyes looked like fire, and his long arms reached towards them, with a dagger of huge proportions pointed straight at them.

"I'll have you hung, both of you; what do you mean by stealing my melons?" he thundered in a peculiar language, rushing towards them and raising his dagger.

"On the broom with you, Princess—quick! Cling to me! Hasten, my steed! Like lightning!" exclaimed the wizard all in a breath.

Immediately they darted off, the princess clinging tightly to her companion.

"Oho!" gasped the bewildered owner. "Birds! Spooks! Goblins! I wonder? A sight! Believe the world's going to end!" and still he stood aghast.

"I guess that gentleman was fooled once in his life," said the wizard, at last.

"Yes," laughed the princess.

They traveled many miles in silence. Finally the princess said: "The planets are so interesting and I'm so glad I got to visit Mars. I think you're very kind and good to favor me so."

"Do you speak the truth, Princess?" he asked suddenly.

"Indeed I do."

"Do you think I'm kind and good in spite of my homeliness?"

"Yes." Her grasp loosened and he feared she would fall.

"Take care that you don't fall."

"Where would I go?" she asked.

"You would fall through space. You would never cease falling."

"Oh, then I'll hold on to you," and she clung tighter.

"Fair Princess, I ask a great price for the favor I've done you."

"I think I can pay the price, for my father is very rich. What is it?"

"It is—you."

"Me—what do you mean?"

The wizard laughed. "Don't you understand?"

"No," blushing.

"I guess I—will. Ever if you are very homely."

"Good!" he exclaimed.

"Where's the earth?" she asked, to change the subject.

"See that star? We'll be there in two or three minutes."

"Well—and that's the earth! A star! I always thought I'd like to live on a star and—I do!"

"Yes, we do."

"We're home," said the wizard's voice. The princess glanced around.

"Where's my wizard?" she asked, seeing only a handsome prince.

"Here," and the prince pointed to himself.

"You're not my wizard!"

"Yes, I was—I'm your prince now. Are you ashamed of me because I'm homely?" and the prince laughed gaily.

The princess thought she had never heard such a merry laugh.

"Tell me all about it, I don't understand it," and she smiled.

"Once a very cruel witch became offended at me and declared me a wizard until I should find a fair princess who was pleased with me."

"I'm so glad I freed you. But what had you done?"

"Nothing, my dear, only a little boy's joke."

"Won't you tell me?"

"Sometime—but not now, it's too long."

"Well I'm glad you're not a wizard, for you're so kind, so good and—so handsome."

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KANSAS FARM BARGAIN.

160 acres nice, smooth land, 2 1/2 miles city limits of Parsons, Labette county, 5 room house, good barn, 6 acre family orchard, 8 fenced hog tight, 50 prairie meadow, 20 blue grass and blue stem pasture, balance in cultivation, R. F. D. and telephone line, \$50 per acre. Good terms. Also 320 acre stock and grain farm, Linn Co., \$25.00 per acre; easy terms. Other Missouri and Kansas farms.

THE STANDARD LAND CO.

Room 4 Ricksecker Bldg., Kansas City, Mo.

CAN GIVE IMMEDIATE POSSESSION

of 120 acres, 4 miles out, 7 miles to county seat, good roads, 75 a. in cult., 45 a. pasture, 2 a. alfalfa, some orchard, land lies fine, 2 a. hog tight, good well, windmill and tank, pond in pasture, 1 1/2 story frame house 16x24, barn for 8 head, cow barn, hen house, granary, etc.; 30 a. wheat, 1-3 goes to purchaser. This farm can all be put in cultivation except about 10 acres; good soil, fine location, on R. F. D. and telephone. A bargain at \$46 per acre. Terms on part. Get our list.

Shepard & Hoskins, Bennington, Kan.

FOR QUICK SALE.

400 acres, 200 in cultivation, 80 in wheat, 5 alfalfa well improved, 180 pasture, 20 hay, 3 1/2 miles from good trading point, \$40 per acre.

W. J. Gordon, Washington, Kan.

Labette Co. Bargain.

80 a., 1 1/2 mi. from Coffeyville, new 8 room house barn, granaries, etc.; plenty water, lays nice, gas, telephone, R. R., short time for \$4,000. Also sell implements, hay, grain, if desired, etc.

BOWMAN REALTY CO.

Coffeyville, Kansas.

FARM BARGAINS NEAR TOPEKA.

160 acres, 3 1/2 miles from city, all smooth good land, fair improvements, good location; a snap; \$50 per acre.

160 acres, 10 mi. Topeka, 4 mi. good R. R. town, good imp., all smooth except 15 acres, 100 acres meadow, bal. cultivation, \$60 per acre.

320 acres, 10 mi. from Topeka, near small town, highly improved, all good, smooth land 225 acres under cultivation, 100 acres wheat, 100 acres hog tight, plenty of fruit, fine location (the best upland half section in Shawnee county), \$70 per acre.

We have a fine list of farms and can suit you.

GILLET & GILLET.

104 West Fifth St., Topeka, Kan.

RENO COUNTY FARM

160 a., 4 1/2 mi. from Langdon, good bldgs., 120 a. cult., 40 a. pasture, best soil. Price \$8,800; terms.

80 a., 4 mi. from Hutchinson, 80 a. cult., no bldgs., black sandy loam soil. Snap at \$8,000. Terms. Other farms.

Chas N. Payne, Hutchinson, Kan.

EASTERN KANSAS BARGAINS.

1.—320 a. well improved, near town, \$45 a. 2.—160 a. good improvements, close in, \$45 a. 3.—160 a. finely improved, \$9,600, 1,152 a. great ranch finely improved, easy payments, \$28 a. Write for list.

JOHN TAGGART & SON.

White City, Kansas.

LIVE AGENT WANTED

In your locality to assist in selling corn, wheat and alfalfa land. We own thousands of acres in Pawnee and adjoining counties. Write us for a proposition on our own ranches.

Frizell & Ely, Larned, Kan.

WILSON COUNTY BARGAIN.

160 acres, 36 in cultivation, 25 prairie meadow, 8 alfalfa, balance pasture. Good orchard, 5 room house and barn. Free gas near school, R. F. D. Price \$35.00 per acre. For further particulars write

Shannon & Harshfield, Fredonia, Kan.

GOOD 160, six miles Minneapolis, \$5 a.; wheat all goes, 15 acres meadow, balance for spring crop, R. F. D. and telephone. Price \$6,000. Possession in 30 days. We have other farms for sale and exchange. Write for free list.

Frank Miller & Co., Minneapolis, Kan.

HALF SECTION.

Gently rolling, 250 acres good farm land, 20 ft. to water, six miles to town. Small improvements, \$2,400. Cash \$1,000, balance five yrs. at 5 1/2 per cent. Worth the money for use or speculation. M. G. STEVENSON, Ashland, Kan.

COWLEY COUNTY BARGAIN.

284 acres 2 1/2 miles of Arkansas City, 160 acres is Arkansas river bottom land, 40 acres in alfalfa, 120 for corn, 9 room house, bank barn 36x40, small orchard and wind mill. Price \$57.50 per acre. Write

R. A. GILMER, Arkansas City, Kan.

A SNAP!

160 acres 3 miles of station, fair improvements, good orchard, running water, 60 acres cultivated, 40 acres good hay ground, 60 acres pasture, all fenced. Good grove. All for \$4,500. Write for list. Also consider good trades.

J. H. McClure, Norwich, Kan.

LAND FOR TRADERS—All of sec. 1-14-36, Logan county, Kansas, for \$3,000 for the section. There is about \$1,500 still due the company and the equity would have to be cash. If you would like something for an investment this is a "peach." This railroad contract has about six years to run after March this coming year at 6 per cent. C. E. TINKLIN, Corning, Kan.

HAVE YOU ANYTHING TO TRADE?

If you have list it with Howard, the Land Man, and he will get you something in short order that will suit you. I have farms to trade, automobiles, houses and lots, in fact, everything you can think of, that you are likely to want. Talk It Over With Howard, the Land Man, Room 15 Turner Bldg., Wichita Kan.

CHEAP FARM FOR SALE IN SALINE COUNTY, KANSAS.

160 acres, splendidly improved, 8 room house, good new barn, cost \$500, granary, new cow shed, 2 chicken houses and other outbuildings, good orchard, farm fenced, 35 acres pasture, balance in cultivation, 20 acres alfalfa, 80 acres bottom, plenty of good water. Possession this spring if sold now. Price \$60 per acre.

Salina, R. F. CRAVENS, Kansas.

BEST FARM IN KANSAS.

560 acres bottom valley land, all smooth, fine, black sandy loam, no waste land, small orchard, 20 acres fine alfalfa land, new 10 room house, hot and cold water, lighted with acetylene gas, bath and toilet, 500-barrel cistern, sewer system, R. F. D., telephone, 5 1/2 miles to two railroad towns. Price \$65 per acre. For further particulars write

Neal A. Pickett, Arkansas City, Kan.

FOR SALE TO SETTLE ESTATE.

Improved farm 160 acres rich land near Pittsburg, Kan., with excellent market for all farm produce. The best town in southeastern Kansas. Also for sale a Corn Mill in Pittsburg with a large and money making business in flour and feed. Another corn mill in Weir City Kan. with a good business in flour and feed, 160 acres unimproved in Haskell Co., Kan. Good wheat land. Address L. BELKNAP, Pittsburg, Kan.

FOR SALE.

I offer a special bargain this week in a half section of smooth land, 1 1/2 miles from Colby, Kansas, the county seat, all broke out and seeded to winter wheat, in good season, all the wheat to go with the land. This wheat crop will go a long ways toward paying for the land, Price \$25 per acre. It will pay you to investigate this by writing the owner.

Colby, IKE W. CRUMLEY, Kansas.

PRICED TOO CHEAP

at \$35.00 per acre, but the owner, who has rented it for a number of years, has moved to Wichita and cannot look after it; 160 acres in Cowley Co., 5 miles from R. R. town, good roads, 1 mile from inland town with church and school; all smooth, level land without a rock or foot of waste; fenced and cross fenced; 80 acres in cultivation, 5 acres hog lot, balance pasture, small orchard, fair improvements, telephone and R. F. D., alfalfa land, 8 to 20 feet to water. If you are looking for a good cheap farm, don't let this get away. \$2,100 will handle

Sharp Realty Co., Wichita, Kan.

AN IDEAL FARM FOR SALE.

Kansas farm of 300 acres, adjoining a flourishing railroad town, forty miles west of St. Joseph, Mo. The soil naturally rich has been made more fertile by twenty years of judicious crop rotation and by the liberal application of manure; well watered, fine walnut timber, finest blue grass pastures, alfalfa, timothy and clover meadows; finest corn and wheat land; well fenced; hay, cattle and horse barn for a large amount of live stock; large silo, water tanks, granary, fine mill, etc. A model stock or grain farm, ready for use. An excellent opportunity. For complete information address K 225, care Kansas Farmer, Topeka, Kan.

HIDES

Classified prices, list with much information, mailed regularly free on request. Shipments invited, large or small. Every deal carefully looked after.

Quick returns. Top prices. Fair selection. These are the points that count with a shipper. Satisfactory results assured. Our liberal methods have made us thousands of loyal friends throughout the great West and Southwestern field. We can satisfy you. Try us. Established 1870. Address:

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A John Deere Book

—Just One A Farmer Can Get It Free

If interested in farming, get our FREE book called "BETTER FARMING." It tells all about—

Alfalfa	Making Hay
Dairying	Fighting Frost
Seed Wheat	Silos
Corn Crops	Cultivation
Stock Feeding	Cotton Crops
Art of Plowing	Soil Fertility
Boll Weevil	Gasoline Engines
Controlling Weeds	Adjusting Plows

Hired Help Costs Big Money

Your land is high priced and hired help expensive. There is only one way to make big money—use implements that cut down the cost of your crops. Isn't it true that when you break something on a plow it is nearly always a cast part? Wherever strain comes on a John Deere Plow there you will find steel—tool steel. Take any plow that has had hard work for five years, put it along side of a John Deere which has been in service that long—and see the difference. Then there is no paint to cover up poor material. You can see the wear and the defects. The John Deere will be solid, staunch and ready for the hardest job. Then you begin to know that quality counts.

You can take pride in owning a John Deere—the standard plow of the world for two generations.



We will send you the 80-page, illustrated book free if you write and ask for Package No. 13

Mention the package number sure, then you will get exactly the right stuff.

DEERE & COMPANY, MOLINE, ILL.



Purchase An Austin Tile Ditcher

It will dig from 3,000 to 5,000 lineal feet per day and make you more clear money than the best 160-acre farm in your county. If you have decided to branch out for yourself this year, arrangements should be completed at once, as spring will be here almost before you know it.

The Austin Tile Ditcher is the only ditching machine made that has positively self-cleaning buckets, hence will dig gumbo or sticky clay without clogging.

It is self-propelling and will travel over wet and boggy ground without miring. For further particulars send for Catalog No. 317.

F. C. AUSTIN DRAINAGE EXCAVATOR CO.
 Railway Exchange, Chicago, Ill. (1)
 Agents wanted in all territory now open.

The next regular monthly meeting of the Shawnee Alfalfa Club will be devoted to a general discussion of seeding alfalfa in which the champions of spring seeding will have their turn. There is a wide diversity of opinion among farmers as to the best time to sow alfalfa though a strong majority seems to favor late summer or early fall sowing. Reports by members of the club indicate that a few have succeeded very well indeed with spring sown alfalfa, but many have found it more profitable to seed in the fall after another crop has been raised. It is generally true that the land can not be gotten into first class condition much before May and then begins the battle royal with the crab grass and the weeds which last all summer, and in which the farmer is by no means sure of being victorious.

Sixty-Five Bushels of Wheat Per Acre.

Rev. M. G. Hamm of Holton, Kan., is a man who preaches by example as well as by precept. While he has been in the ministry a good many years he has been a farmer all his life. Last year he had the satisfaction of raising 65 bushels of wheat to the acre and here is a brief story of how he did it:

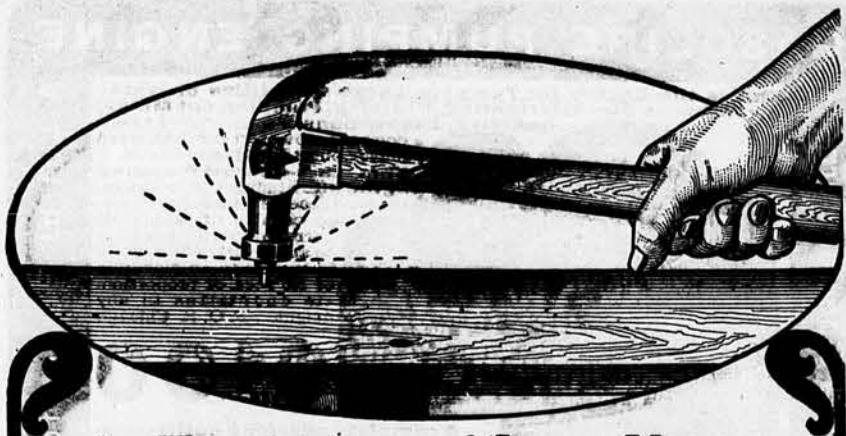
"Five years ago I began to prepare the ground and lay my plans for a record-breaking crop. The field where I pulled off the great feat for the championship had been farmed for 47 years. It was first plowed two years before the collapse of the Confederacy.

"Forty years of the 47 had seen this land in corn. Most land is 'corned to death' in half that time. The last seven years' history of the land is this: Two years in clover. Then disked and manured with seven loads to the acre, and cropped with corn. The disk and manuring was repeated the next year, and the corn crop yielded 70 bushels to the acre. Again it was disked, manured and corned and this time it yielded 80 bushels to the acre. I knew the time was getting near when I could raise the record wheat crop. That was the spring of 1908. I disked it, manured it and plowed it shallow and sowed white Swedish oats. The oats did find until heading time, when the wet weather ruined them. I plowed them under green about July 1. Then I disked the land, harrowed it and dragged it with a heavy float that smoothed it and leveled it like a floor. After every rain I repeated this process until it came time to sow the wheat.

"Then I sent to the Kansas State Agricultural College and secured some pure bred Ghirka seed wheat. I planted it about October 1. I set the drill as deep as it would go, which was about two and one-half inches. I set the drills as close together as I could, making the rows five and one-half or six inches apart. I planted about a bushel to the acre. Then I waited for the wheat to come up.

"As soon as the wheat came up in the fall a neighbor's sheep spied it and they kept it eaten into the ground. Their tramping packed the ground very hard. Horses and cattle were turned on it in the winter when the ground was dry or frozen. It was pastured in the spring until corn planting time. It was given a dressing of manure, seven loads to the acre. It made a wonderful growth. Thirty-eight stems were counted growing from one seed. July 6 it was cut. July 14 it was stacked. It was thrashed September 25 and yielded 65 bushels to the acre, machine measure. The average yield in Kansas is 13 bushels, so 65 bushels is just five times the average yield.

"My neighbors are German farmers, and I have had the satisfaction of proving Yankee methods were best. I have 85 head of horses and cattle, besides pigs and chickens, on the place and yet I could use 10 times as much manure as I have. Until a year or two ago two of my German neighbors were farming 400 acres of land with only a few head of live stock on the place. It can't be done. I would not give \$20 an acre for such land. It has been corned to death. Part of it will produce only five bushels to the acre. It will not average 20 bushels, taking the bottom land and all. It would take 10 years of dairy farming to restore that land. At current prices it would bring \$100 an acre, but no farmer could pay \$20 an acre and make it out of the soil. That's why the people in the cities find bread is getting dearer every year."



A Hammer with a Name

You wouldn't buy a cream separator or a plow that didn't bear the name of some reputable manufacturer. The same judgment should forbid your buying nameless tools of uncertain quality. The name and trade mark found on all

KEEN KUTTER

Tools

have been the marks of tool quality for over 40 years. On a hammer, for instance, they mean crucible steel, not ordinary steel or cast iron that chips and breaks at every blow. They mean second growth hickory handles fastened in with the Grellner Patent Lock Wedge that makes it impossible for the hammer to get loose or fly off. They mean correct hang and balance that is essential to good work with least exertion. They mean satisfaction guaranteed or your money returned.

Remember the name "Keen Kutter" and the trade mark when you buy tools. "The Recollection of Quality Remains Long After the Price is Forgotten."


Trade Mark Registered. If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY, Inc., St. Louis and New York, U. S. A.

ALWAYS READY FOR WORK

THAT'S the kind of a traction engine you ought to have—the International gasoline kind—that saves you money all the way 'round, in help, time, labor and fuel. For the International Gasoline Tractor, when you use it to plow with, don't need two men on the engine, one on the plow, a man and team hauling water and a man and team hauling coal. One man can operate the tractor.

It Plows a Straight Furrow Turns in Smallest Space



You don't have to wait to "get up steam" with an International Gasoline Tractor. No time wasted. Fuel is cheaper—the International Tractor uses less fuel even than other gasoline tractor—and it carries a whole day's supply right with it.

It is light, easily operated, can go anywhere and do anything a steam tractor can—with no flying sparks. And it doesn't need any licensed engineer to run it.

The International Tractor is wonderful at all kinds of farm work—this is shown by the way it won the gold medals at the agricultural-motor contests last year.

Investigate its merits. See the local agent now for catalogue and particulars, or write us for further information.

International Harvester Company of America
 (Incorporated)
 Chicago U S A



10-CENTS A POUND FOR HOGS

Don't sell your hogs for 6 to 8 cents and buy poorly smoked meat from Meat Trust at 20 to 30 cents. Butcher your hogs, salt and smoke the meat yourself, sell the hams and bacon not needed for your use and make 2 or 4 times what you do now, besides having better meat. The extra profit will pay for what you use. No smokehouse necessary.

USE WRIGHT'S CONDENSED SMOKE

Gives the rich aroma and delicate flavor of hickory smoke to the meat, therefore secures highest prices. Keeps the meat sound and sweet indefinitely, and free from insects. Applied with a brush; twice over is sufficient; entirely absorbed; penetrates meat thoroughly. A 75-cent bottle smokes a barrel of meat. Guaranteed and sold under Pure Food Law, Serial No. 541. Beware of imitations; secure the original and genuine. Write for illustrated free book, "The New Way."

Wright's Smoke guaranteed and backed by our \$25,000 capital. Money back if you want it.

E. H. WRIGHT CO., INC., 619 Broadway, KANSAS CITY, MO.

FREE SAMPLE BOTTLE
 Ask your druggist for free sample bottle. If he cannot supply you, send 10 cents and names of five who smoke meat. We will send you, prepaid, sample bottle sufficient to smoke 10 lbs. of meat.

GASOLINE PUMPING ENGINE

A Special Machine for a Special Purpose

This is the Engine for Pumping Large Quantities of Water for Watering Stock, Irrigating, Pumping out Mines, Quarries, Excavations or other places where a compact, powerful and low priced pumping outfit is wanted.

This Back-Geared Pumping Engine with Stuffing Box, as shown, ready to receive pipe connections, and capable of raising 260 barrels of water per hour to an elevation of 25 feet, 66 barrels to an elevation of 100 feet, or proportionate quantities to any height. F. O. B. Chicago

\$100

A complete pumping outfit assembled in one compact machine ready to receive the well connections and go to work just as soon as they can be attached. Cylinder, pipe and rod all fitted ready to screw together, for any lift from 25 feet to 100 feet, furnished for \$45.

This is an emergency outfit which can be shipped on an hour's notice and can be set up in complete working order within an hour after it is received.

This engine was specially designed for pumping. It can also be used for running a grinder, fodder cutter, saw or other light machinery; but, where operating machinery is the principal work, our \$75.00

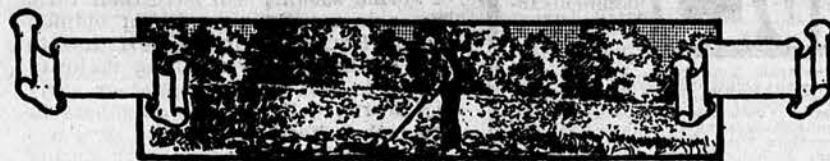
2-H. P. general purpose engine with fitted cooler is cheaper and more suitable. Larger sizes at proportionately low prices.

If you need a small engine to operate "any old hand pump" our \$37.50 pumping engine is just the thing. Remember that these engines are manufactured by the company which made the steel windmill business. Thousands of these engines are in use.

AERMOTOR CO., 2508 12th St., CHICAGO

A Lot of Power for a Little Money

HORTICULTURE



Would Not Limit Time of Storage.

One thing which will interest farmers, and all other producers, is the opinion of Secretary Wilson, as expressed before the Congressional committee investigating the cost of living and the effects of cold storage on high prices, that it could not do any good to place a limit by law on the time that perishable products may be kept in cold storage.

Congressman Coudrey asked whether "it would relieve the situation as to the rise in the price of foods if we were by law to limit the period of time that meat, poultry, butter, eggs, and other food supplies could be kept in storage?"

To this the Secretary replied: "I doubt if it would, for after the fullest inquiry you would limit the time to such period only as that which the meat would be good when it was taken out, and the packers and all others, merchants who use these refrigerators, must do the same thing."

Dealing With Peach Yellows.

The proper method of dealing with peach trees affected by the disease known as yellows continues to be a serious subject with fruit growers. Most fruit growers are satisfied to rip out a tree so diseased without delay and burn it on the spot. Prof. H. A. Surface, the state zoologist of Pennsylvania, has been conducting a series of experiments with trees showing symptoms of yellows, but does not consider the results thus far obtained as being sufficiently conclusive to base public directions upon them. He says:

"I am not fully satisfied with the results of my studies and experiments with the peach yellows. Many trees treated by me last season, which were apparently infected, grew out of the trouble, and are now in good shape, while a smaller percentage got worse instead of better. It is my opinion that the disease known as yellows is not always due to the same cause, and, consequently, is not always to be remedied by the same means. In general, I would advise an inexperienced person to pull the trees and burn them right on the spot, taking care that the infected branches do not come in contact with the living branches of healthy trees.

"However, in regard to a studious and careful person, it is different; and I would recommend 'dehorning' them while dormant, and hauling or carrying the brush from the orchard—not dragging it—being careful to avoid letting it come in contact with the branches of healthy trees, the brush to be burned on a hot fire as soon as possible. As a matter of economy, the larger wood can be used as fuel for household purposes or elsewhere. A good use would be for boiling the lime-sulphur wash, which should be sprayed on all peach and plum trees, while leafless, whether infested with scale or not.

"After dehorning I should mulch the trees with almost any kind of covering that I could put around the roots, preferring straw stable manure. In the early spring, I should give the soil a dressing with a complete fertilizer, in which nitrogen would predominate, obtaining this from different sources, such as nitrate of soda, dried blood, and tankage. I should give special care to the cultivation and if necessary, to the watering of these trees. I believe they will grow out of it, as nine-tenths of mine have done."

The Orchardist's Problems.

The fruit grower or the prospective fruit grower has chosen his location; he has cleared the wilderness spaces of brush and briars; he has broken up the stubborn earth and made it obedient to the conquering plow; he has mellowed the soil with the harrow;—now he comes to the testing of his faith—to the working out of his problem. What must the tree-planter do? What is the tree-planter's problem? Is it the problem of a single tree or of ten thousand trees?

The problem is more than a problem of a single tree or of ten thousand trees; it is the problem of the

Man Himself—a problem of faithfulness and patience and of intelligent pursuance of a plan. So many men plant with abounding faith, and then fail to keep the faith with all diligence! So many see visions of rewards, and then refuse to pay the price of the great rewards by faithful study and unremitting toil! So many see only the visions of the planting and the gathering, losing sight of the long period of waiting and working that lies between!

Do you get my thought? Do you begin to appreciate the fact that great hopes are not great unless they are also enduring? that great faith is not great unless it can wait for long and seem to lose its promise while it is surely being fulfilled? that he who plants must work and watch and wait? You do get my thought. This is what I would teach to the man who plants an orchard; that he must plant with all the knowledge he has and can obtain; that he must cultivate and care for it with all the knowledge and diligence and intelligence he possesses and with a continuing effort to get more knowledge and to work with increasing intelligence and a surer vision of the fulfillment of his hopes with abundant harvests.

All this may seem very "impractical" to some of you; to some it always will be impractical; for they fail to see beyond the immediate present, not realizing that everything that is best in agriculture is projected far into the future. There is no permanent "present" in the fruit grower's art; it is always a coming-to-be; always a Now stretching forward into a continuing life process; always the making of one crop and the preparing for the next at the same time. The trees themselves have faith; and they work to make their faith ripen into fruit to feed us and into seeds to continue their kind upon the earth.

THE ORCHARDIST'S DUTY.

And the fruit grower's duty,—what is that? Merely to study and to work. He must study to make his work more effective; must work to prove his study worth while. And I do not know which is the more important. Show me thy faith without thy works, and I will show thee my faith by my works. In truth, you can not show your faith without your work; and you can not prove your study worth while unless you work. On the other hand, you are sure to work in vain unless you study to work in harmony with the eternal laws of life and growth.

So I have preached by little sermon of faith and study and work.—D. W. Working.

Destroy the Insect Foes of the Orchard.

Kansas University, in its connection with the state entomological commission, is just now conducting a series of practical demonstrations looking toward increasing the fruit yield and improving the quality of the products. The active work of this commission is carried on by the University and the Agricultural College working together. The southern half of the state has been assigned by the commission to Prof. S. J. Hunter, the University's representative on the commission, and the northern half of the state to Prof. T. J. Headlee, the representative of the Agricultural College on the commission. The other three members of the commission are: Chairman, F. D. Coburn; secretary, Walter Wellhouse; and Senator Stannard of Ottawa.

A recent demonstration was held under the auspices of the Missouri Valley Horticultural Society at the large orchards of Holsinger Brothers near Kansas City. Here, under the direction of Professor Hunter of the University, it was shown now the fruit grower could make all of his own sprays by a simple and inexpensive apparatus costing in all about \$20. This was practically demonstrated because Mr. George Holsinger had previously done this, receiving only a few suggestions. With the

KANSAS LAND

IF YOU WANT

The right land, at the right price, in the right place, from the right man, write right now to
H. D. HUGHES, McDONALD, KAN.

CHOICE KANSAS FARMS in Smoky Valley, Saline, and McPherson counties, where you can raise alfalfa, corn and wheat with profit. Write for information and list. David Bachman, Lindeborg, Kan.

MONTGOMERY COUNTY LANDS. Montgomery county is second in population and 5th in wealth in Kansas. Write for list of choice farm bargains and prices. W. J. Brown & Co., Independence, Kan.

WHEAT, CORN, ALFALFA AND OATS produce mammoth crops in Barber Co., Kan., adjoining the famous Alfalfa county, Oklahoma. I have many good farms and ranches for sale at less than their actual value. Write for full information. J. M. MILLER, Kiowa, Kan.

SHARON COUNTY ALFALFA LANDS. Choice corn and alfalfa farms for sale in Barber county, Kansas. Crop failure unknown. Write for particulars and list. Address: **WILLIAM PALMER,** Medicine Lodge, Kansas.

IMPROVED FARMS. \$35 to \$60. Producing immense crops corn, wheat and alfalfa. Nearly every farmer has 10 to 100 acres alfalfa. Fruits of all kinds and vegetables do well. List free. **W. O. ALFORD,** The Pioneer Real Estate Agent, Hazelton, Kansas.

FINE HOG FARM. 140 acres, 25 alfalfa, 20 pasture, splendidly located, well improved, running water, deep black soil, splendid neighborhood, \$60. Liberal terms. 150 other farms. List and literature free to buyers. **BRADSHAW & MOTT,** 111 N. Topeka, Wichita, Kan.

FOR HOMESEKER OR INVESTOR. Kiowa and Cavalry Creek Valleys, Comanche County, Kansas. Alfalfa land \$20 to \$35; rapidly advancing. Great opportunities for homeseeker or investor. Write for our large list of bargains, mailed free and postpaid. **PIONEER REALTY CO.,** Protection, Kan.

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

SEDGWICK COUNTY FARM BARGAINS. 160 acre farm, all level, black soil, no waste land, corn, wheat and alfalfa land; 90 acres in cultivation, 70 acres in native grass, fenced with hedge and wire and cross fenced; one of the best producing farms in the county; only 15 miles from Wichita and 4 miles from a good grain shipping point with two elevators and two railroads. Possession given at once. For quick sale, \$55 per acre. **Butter Realty Co.,** Opp. F. O., Wichita, Kan.

BUTLER COUNTY, KAN.

Do you want to buy a farm? Send for our list of farms for sale in the best county in state. Make early selections before prices go higher.

WHITEWATER LAND & LOAN CO., Whitewater, Kansas.

LANE COUNTY, KANSAS

Offers bargains in wheat and alfalfa ranches at \$10 to \$20 per acre. Write for my price list and investigate at once.

WARREN V. YOUNG, Bigton, Kansas.

FREE LIST Dickinson county corn wheat and alfalfa farms. Write today. Baumgarth & LaPort, Abilene, Kan.

MARION, MORRIS AND DICKINSON county, Kansas, lands. Bargains in improved farms at prices ranging from \$45 to \$80 per acre. Write for big list. **T. C. COOK,** Lost Springs, Kan.

NESS COUNTY, KANSAS LAND. Good soil as any in the state at \$10 to \$15 per acre, well improved land \$15 to \$25 per acre. Partly rough at \$6 to \$8 per acre. Come before the new railroad gets here or write **J. G. COLLINS** Ness City, Kan.

HUTCHINSON, KANSAS 160 acres black, splendid corn land, 120 under plow, 40 pasture, fine maple grove, orchard, extra good improvements, all bottom land, 3 miles town. Reno Co. A beautiful farm for \$12,000; terms. Get full description, Smith & Glenn, over McBurney's.

NEBRASKA LAND

IRRIGATED HOMESTEADS. In the famous North Platte Valley, where Uncle Sam furnishes the water on ten years time without interest. Crops yield \$25 to \$100 per acre. Homesteads at from \$700 to \$3,500, according to improvements. Deeded land \$75 to \$100 per acre. Free rural mail delivery, telephone and all modern farm conveniences. These lands in splendid settlement of fine homes near town. For particulars write or see **CARPENTER, PLUMMER & MURPHY,** Morrill, Neb.

45 BUSHEL WHEAT LAND, \$25 PER ACRE. We own and control 20,000 acres of Cheyenne county, Nebraska's choicest farm land now on the market. The heaviest crop yielding county in Nebraska for ten years; alfalfa also a leading crop. Ask for folders and full particulars. Agents wanted everywhere. Write for our proposition at once. Railroad fares refunded if things not as represented. **FUNDINGSLAND & SEVERSON,** Sidney, Nebraska.

TWO SPLENDID FARM BARGAINS. 400 acre farm in Red Willow county, Neb., 2 1/4 miles from McCook, good 8 room house, good barn and other good improvements; 160 acres choice valley alfalfa land, 65 acres now growing; 100 acres bottom and 40 acres upland, cultivated, balance pasture; well watered, some timber and abundance of choice fruit trees, bearing. Actual value of land over \$20,000 but belongs to non-resident, who will take \$16,000 if sold soon—only \$40 per acre. Act quick; don't miss this. 560 acres 12 miles from McCook, 7 miles from Troyer, Kan.; 400 acres choice smooth farm land, balance good pasture, half cultivated, slight improvements. A splendid bargain at \$16 per acre. For other snaps in farm and ranch lands write or see **ACKERMAN & STEPHENS,** McCook, Nebraska.

Kimball County, Nebraska.

has excellent farm lands. Produces alfalfa and all kinds of small grain. Prices \$10.00 to \$20.00 per acre. State amount of land wanted. **KIMBALL LAND CO.,** Kimball, Nebraska.

OKLAHOMA LAND

CORRESPOND with us about Garfield Co. lands. McCarty & Plumley, Enid, Okla.

WASHITA VALLEY LANDS.

From \$10 to \$60 per acre offer great opportunities for investment. They are well located near railroads, towns, churches and schools. Write for further information. **JOSEPH F. LOCKE LAND & LOAN CO., Wynnewood, Oklahoma.**

480 ACRE FARM.

Five miles from Medford, the county seat, this farm is in a good state of cultivation and if sold at once 1-3 of crops will go with the place. Price \$42.50 per acre. Come quick. **J. H. FUSS & COMPANY, Medford, Okla.**

BECKHAM COUNTY, OKLA.

160 acres, 3 miles Dooey, railroad town, house, barn, 100 in cultivation. 700 peach and apple trees four years old. 140 tillable. \$3,000. Terms. Other farms. Will sell at extremely reasonable prices.

SECURITY INV. CO.,

Mangum, Oklahoma.

FINE ALFALFA FARM.

480 acres rich, alluvial valley soil, 260 under plow, 25 alfalfa fair improvements, living water good well, 7 miles railroad, \$35.00 per acre. Terms. Many other snaps. **W. C. ATKINSON, Oklahoma.**

REAL ESTATE BROKERS.

Mangum, Okla. Lands that produce big crops of cotton, alfalfa, corn, wheat and all other staples at very reasonable prices. Write for free list of bargains. **McMILLAN & LANFORD, Oklahoma.**

ALFALFA RANCH, KIOWA COUNTY.

160 acres, dark loam valley land, sub-irrigated, 10 ft. to water, 2 miles good town; all tillable, 180 cultivation, 25 alfalfa, fenced, well, good buildings, clear. Price \$6,250. \$1,250 cash, balance easy terms. Other farms. **H. H. ANDERSON, Oklahoma.**

IMPROVED FARMS.

180 acres, 140 in cultivation, good 9 room house, barn, 45x65, tool shed and granary, 40x40, orchard, telephone. R. F. D., near school, 4 miles county seat. Price \$9,000. Write. **J. T. RAGAN, Oklahoma.**

McLEAN COUNTY.

Timber and prairie lands \$10 to \$50 acre, mostly on good terms. Lands have never been boomed; will undoubtedly double in value soon. For a good investment or speculation write us. **BYARS REAL ESTATE CO., Byars, Oklahoma.**

WASHITA VALLEY LANDS.

Good corn and alfalfa farm four miles Pauls Valley, one mile State Industrial School. 170 acres, 150 under cultivation, 150 acres Washita Valley, 6 room house, above overflow Electric line soon. Price \$10,000. **O. W. JONES, Oklahoma.**

320 ACRES 1/4 mile from Numa.

a small town on the Santa Fe, 90 acres in wheat, 25 acres oats, 120 acres to be planted to corn, 1-3 of all crops to go with the farm. Two sets of improvements, good wells and windmills on each quarter, all smooth land. Price \$16,000.00; will sell separate or together, come quick if you want this. **J. H. Fuss & Co., Medford, Okla.**

MAJOR CO. FARMS.

No. 510. Kingfisher county farm of 80 acres, 30 acres in cultivation. 80 acres tillable, 50 acres under wire fence, 4 miles from good town. Price \$1,200. No. 511. Well improved farm, one-half mile from Fairview, Okla., good 7 room frame house, all under good barbed wire fence, 100 acres in cultivation, all good plow land, fine for alfalfa. Price \$12,000. Will J. Graves, Fairview, Okla.

OKLAHOMA FOR HEALTH AND WEALTH.

320 acres, 7 miles from Texola, Okla., R. F. D., school 1/4 mile, 200 acres lies nearly level and all tillable, 140 acres under cultivation 120 acres fine pasture land, supplied with plenty of living water and good grass. Has small house, sheds and out-buildings. Well and windmill. If you want a farm where you can raise good crops and keep a bunch of stock, you should see this one. A farm and ranch combined. \$2,500, on liberal terms. Send for our catalogue. **Texas-Oklahoma Realty Co., Texola, Okla.**

SNAPS IN GRANT CO., OKLAHOMA.

1/2 section, 2 miles of Medford (county seat), 1/4 deeded and 1/4 school land, 185 a. in cultivation 110 a. in wheat, 25 a. fine alfalfa, balance pasture, 6 room house, barn 65x60, granary for 3,000 bu., 2 good wells about 20 ft., also mill, 1 mile to school and good high school in town, creek bottom, deep black loose soil, 1/2 all crops in granary and possession next Aug. 1. Price until April 1, 1916, \$11,500. **BATTEN REALTY CO., Oklahoma.**

"HOUGH SELLS THE EARTH."

In Caddo county, fertile, rich, cheap. Send 10 cents in stamps for handsome colored county map of Oklahoma, circulars and list. Letters answered in German or English. **W. R. Hough, Apache, Okla.**

FINE SECOND BOTTOM FARM

360 acres fine second bottom, practically all in cultivation, 3 miles from railroad town, three sets of buildings, telephone, rural mail, school in one corner; this land will raise 75 bushels of corn or a bale of cotton to the acre. Price \$55 per acre; terms on part. **R. B. BEARD, Muskogee, Okla.**

First State Bank,

Oklahoma Land

Where corn, wheat, alfalfa and cotton are making the farmers rich. We specialize on Oklahoma, Cleveland, Logan and Washita counties. Fine alfalfa lands, \$30 and upward. Write for list and printed matter, mailed free. We also lead all in Oklahoma City property. **FARM & HOME INV. CO., Cuthbertson Bldg., Oklahoma City, Okla.**

plant constructed by him some 300 gallons of spray were made and applied by means of two power sprayers and two hand sprayers in the orchard nearby. Prof. Clarence Holsinger of the Agricultural College was also present and rendered some effective cooperation in carrying out the work and answering the many questions that arose. Some 200 fruit growers were present, including representatives from Hiawatha, Leavenworth, Ottawa and towns in the immediate vicinity of Kansas City.

In an address before the demonstration began Professor Hunter said in part:

"The advent of spraying marked an important epoch in the progress of agriculture. Commercial horticulture has made spraying a necessity. The cold storage plant and the refrigerator car have made possible the universal distribution of horticultural products and with them the wide dissemination of injurious insects and plant diseases. Spraying is an insurance. Some years its value can be reckoned by the price of the full crop itself. Last year was one. Senator Stannard, a prominent fruit grower in Franklin county, sprayed persistently throughout the season on his twenty-five acre orchard and sold therefrom in the fall 10,000 bushels of apples. Last year was not an apple year. Mr. James Sharpe, a Morris county apple grower, has demonstrated beyond a doubt that properly sprayed apples not only top the market but keep longer than those not sprayed.

"Like insurance, spraying, to be successful, must be continuous. The time to begin is now. The trees are bare and readily accessible to the sprays. The plant diseases which disfigure and cause early decay of fruit are firmly implanted in the bark or on the mummified fruit. The spraying fluids are simple, inexpensive and effective against injurious insects and plant diseases. For the winter spray use 15 pounds of sulfur, 20 pounds of unslaked lime and 50 gallons of water boiled together for an hour. The mixture may be boiled in less water and then the full amount added later. To kill all the lurking enemies the tree must be thoroughly covered with the spray. This requires a good spraying pump, and there are many such on the market at prices to suit the purse."

Perhaps the most efficient means for destroying dandelions that has yet been discovered is iron sulphate or copperas dissolved in water and applied with a spray pump so as to thoroughly wet the foliage of every plant. A number of our readers tried this remedy last year and found that after one application the leaves of the plant turned black and died, but that new leaves were pushed out from the strongest plants in a few days. As the dandelions are always with us, and as a mechanical treatment of this pest is laborious, it is of interest to know of some cheap and efficient means by which they can be destroyed at wholesale. The solution should be mixed on a 20 per cent basis. That is one-fifth of the solution should be copperas and four-fifths water. If this solution is sprayed upon the dandelions about once in three weeks it will utterly destroy them. Three applications only are necessary generally. This solution will discolor the grass but will not kill it, although it does destroy some other kind of weeds than the dandelions. If the first application is made when the plants are in full leaf in the spring, the second one about three weeks later, and the last one in midsummer, there should be no dandelions left on the area so treated. Care should be taken to prevent this solution from getting on the clothes or on the stone or brick walks. It is destructive to the clothing and discolors the walks.

Legality of Wills.

Every person is interested in the disposition of his property at his death and should know absolutely that it will be received by those whom he desires to have it, without trouble or expense. Nathan Q. Tanquary, Continental Bldg., Denver, Colo., for more than 20 years has made a specialty of the law concerning wills, estates and diversion of property. No will drawn by Mr. Tanquary has ever been broken. All inquiries by mail or in person are treated with the utmost confidence and given careful personal attention.

OKLAHOMA LAND

A RARE SNAP. 160 acres adjoining town, all in cultivation, good house, barn, granary, good orchard of all kinds of fruit, fenced and cross fenced. This is one of our best bargains and if you are interested do not delay. Price \$48.50 per acre. (First come first served.) **HUNTER REALTY COMPANY (Est. 1893), ENID, OKLA.**

"WE SELL THE EARTH." Farmers grow wealthy in a short time in Custer and adjoining counties in Oklahoma growing hogs, corn and alfalfa. Farms at from \$30 to \$50 per a. Write us for land list. **DULANY & RANDOL, Oklahoma.**

Clinton, **Oklahoma.**

IF YOU have money to loan on good farm and city security, write John Hankins, Chickasha, Okla.

Alfalfa County Farms for sale at less than their actual producing value. Write Hood & McFadden, Cherokee, Okla.

WRITE FOR FREE LIST of Caddo county farms and descriptive literature. Many big bargains. E. C. SCHLITZ, Anadarko, Okla.

FREE INFORMATION about Oklahoma. Homer H. Wilson, Here since 1893. Enid, Okla.

MAJOR COUNTY corn, wheat and alfalfa lands. Lowest prices. Best terms. Information free. J. N. Godfrey Fairview, Okla.

CADDO CO. FARMS. Best in Oklahoma for homes or investment. Your address on postal card will bring descriptive list and literature.

BALDWIN & GIBBS CO., Oklahoma.

OKLAHOMA FARMS. Best county for corn, wheat, oats, alfalfa and tame grass. 50 acres \$3,500. 100 acres fair improvements, \$4,000. Write for list of bargains.

VOGELE & WOOD, Newkirk, Okla.

A CUSTER COUNTY BARGAIN. 160 acres, 2 miles R. R. station, 80 in cultivation, 65 fenced in pasture, fine water, four-room house. Price \$2,800; easy terms. Many other bargains. New list free.

HUGHES & SORTER, Oklahoma.

CORN, OATS, WHEAT and alfalfa and all staple crops grow to perfection here in the garden of Oklahoma. Prices reasonable. Write for list and descriptive literature.

C. E. POCHET, Oklahoma.

EASTERN OKLAHOMA. Improved farm, 160 acres, good, new house. Half section of unimproved land, very fine. Several other good bargains. Write me if you want to know about Eastern Oklahoma. T. C. BOWLING, Owner, Fryer Creek, Oklahoma.

BLAINE COUNTY, OKLAHOMA. 320 acres, level, all tillable, all alfalfa land, house, barn, granary, orchard, fenced, 5 miles from 3 railroad towns. 1-3 200 acres growing wheat goes; \$12,800. Easy terms. Own other farms. **ED BAKER, Owner, Watonga, Okla.**

CADDO COUNTY, OKLAHOMA. corn, wheat, cotton and alfalfa lands, \$20.00 to \$75.00 per acre, according to improvements and distance from towns. Lands are advancing rapidly. Now is the time to buy. Write for full information. **J. ELZIA JOHNSON, Hinton, Okla.**

BARGAINS. Chicken and garden farm, 2 1/2 acres, new five room house, new barn and yard, close in, Enid property; \$3,000; easy terms.

Large seven room house, new modern, close to school, best residence part of Enid, Okla., \$3,900; terms. **TEXAS & OKLAHOMA LAND CO., Enid, Oklahoma.**

NOTICE TO RENTERS. Here is something you may never see advertised again. No. 240-160 acres, 3 miles from good town, 17 mi. from R. R., 152 a. tillable, 85 a. in cultivation, 140 fruit trees, 2 room house, \$2,500. Terms, \$1,000 cash, bal. terms. Write us when you can come. **The Grant Investment Co., Thomas, Okla.**

GOOD FARM. 160 acres, 6 miles Tecumseh, 80 in cultivation, good buildings, 6 acre orchard in fine good bearing condition, marketed 1,000 bushels in 1909. Price \$2,500; easy terms. Other farms for sale on small payments and long time. **E. J. DICKERSON, Oklahoma.**

WHEAT, OATS, ALFALFA, COTTON. Good lands \$30 to \$60; produce big interest on capital invested. Well located, near thriving and growing city. Prices and descriptions free. Correspondence answered in either German or English. **LONE WOLF REAL ESTATE & INVESTMENT CO., Oklahoma.**

TWO EXCEPTIONAL BARGAINS. 560 acres fine second bottom, above overflow, 3 mi. Wagoner, 175 acres cultivation, 25 acres good timber, balance good grass, all tillable and smooth, at \$35.00 per acre. Adjoins land sold at \$42.50.

160, 3 1/2 S. W. Wagoner, good new 5-room house, fair barn, nice young orchard, 80 acres cultivation, balance good hay meadow at \$35 per acre. Write for information. **W. H. LAWRENCE, Wagoner, Okla.**

640 ACRES OF DEEDED LAND: 300 acres of this is first class farming land; 400 acres of Indian land, leased and under cultivation; 3,000 acres of first class grazing land (Indian) leased for term of years; excellent water and good grass; very cheap lease. Good two story house of 8 rooms; water in house; hen house, cave, good grain elevator, scales, corrals and everything in first class shape, and the farm land is of the richest. Plenty of timber for wood and plenty of shelter for stock, and is an ideal farm and cattle ranch very desirably located; 2 miles to railroad. Steam plows, farming tools, horses and everything in connection with this ranch gone. First Loan & Mortgage Co., Watonga, Okla.

OKLAHOMA LAND

MISSOURI LANDS. SPECIAL PRICES on Bates county corn, clover and bluegrass farms; best county in the state. F. R. ALLEN, Adrian, Mo.

CORN, clover and bluegrass farms in the best section of Missouri, very reasonable prices. Write for descriptions. **W. A. HORN, Harrisonville, Mo.**

IMPROVED corn, clover and bluegrass farms, 40 miles south Kansas City, \$50.00 to \$75.00 per acre. Jot M. Wilson & Son, Harrisonville, Mo.

NORTH MISSOURI farms for sale and exchange. Home of blue grass, corn and clover. Booklet and state map free. Broyles Land Co., Chillicothe, Mo.

KORN, KLOVER and bluegrass farms, \$40.00 and up. Write for description and further information. **Ward-Sturges Land Co., Leeton, Johnson Co., Mo.**

DID YOU GO TOO FAR? Do you want to have a clover, bluegrass and timothy farm again? If so, write us. We sell well improved Johnson county farms for \$40.00 up. Write for our list, mailed free and postpaid. **LEETON LAND CO., Leeton, Mo.**

80 ACRES IN JASPER CO., MO. 2 1/2 miles from inland town, 6 miles from R. R., on R. F. D., 1/2 mile to good school, 8 acres of timber fenced for hog pasture, good 5-room house, good barn, well and spring. Price \$50 per acre. For further particulars write A. C. Stemmons Carthage, Mo.

580 ACRES FINE TIMBER LAND. Abundant living spring, makes ideal ranch; if cleared would be good agricultural; farms adjoining all sides cannot be bought for \$50 per acre; near county seat; price \$75 per acre; no incumbrance; will take some trade. **J. H. McQuary Realty Co., 420 Commerce Bldg., Kansas City, Mo.**

STOCK FARM SPECIAL. 350 acres, 1/4 mile from station 50 acres in cultivation, 310 acres pasture, 3 good springs, plenty of good timber, good house and barn, good well, R. F. D., telephone. A fine stock farm. Price \$20.00 per acre, half cash, balance to suit purchaser. Call or write **AURORA REALTY & INVESTMENT CO., Aurora, Missouri.**

SOUTHERN MISSOURI LANDS. Howell, McDonald, Stone and other counties. We have several thousand acres, \$2.50 to \$3.00 per acre, in best part of fruit country. Also improved farms, \$10.00 to \$40.00 per acre. Will exchange. Write us what you want. **LOCATOR REALTY CO., 342 Ridge Building, Kansas City, Mo.**

FARMS ON AND NEAR ROCK ROADS. In Southern Jackson and Northern Cass Counties, Missouri, only 20 to 30 miles out from Kansas City, of 40 acres or more, at \$80 and up per acre. Jackson County has 280 miles of rock roads. No trades. For particulars, address **FRED B. GLOVER, Gumbel Bldg., Kansas City, Mo.**

GOING UNDER THE HAMMER! To prevent foreclosure on a large farm, we will sell 268 acres near two railroads and proposed Topeka electric line within 20 miles of Kansas City. Most of this land is tillable and about half in cultivation. Don't miss this opportunity. Price \$57, cash. Brasfield & Hammond, 715 Finance Bldg., Kansas City, Mo.

MISSOURI FARMS. Why not come to Cass county, Mo., where the blue grass, white clover, red clover and timothy grows in abundance? I have a few good farms for sale only a few miles from Harrisonville, the county seat, one of the very best towns in the state, of two thousand population. We are only forty-five miles due south of Kansas City. **CLARENCE F. GILBERT, Harrisonville, Cass Co., Missouri.**

Land Sale! Did you ever own a farm in the Bluegrass, Corn and Clover belt? Did you go a little too far? If so, write me. I have Corn, Clover and Bluegrass Land; temperate climate, good improvements, schools and churches paid for, low taxes, good market towns and railway facilities. State and soil map free. Full particulars sent on application. **BAZEL J. MEEK, Chillicothe, Missouri.**

TEXAS LAND

FREE TRIP TO TEXAS

If you want to take a free trip to the Sunny Pecos Valley of Texas where they cut six crops of alfalfa and raise all kinds of fruits and vegetables, write us for further information
The Heath Company, Topeka, Kan.

A PARADISE RECLAIMED

15,000 Acres Actually Irrigated in the
BEAUTIFUL PECOS RIVER VALLEY OF TEXAS.
Deep, rich soil. Abundance of water. Delightful climate. Right on Santa Fe Railroad station in center of tract.

DAM RESERVOIR, CANALS ALL COMPLETE NOW.
Free water with every acre. Selling fast. Act quick if you want an actually irrigated farm cheap, or an investment that will pay you 50 per cent annually. Excursions and cheap rates first and third Tuesdays of each month.
Most desirable irrigated land and townsite proposition on the market today. Send for interesting booklet. Tells you about it. Good live agents wanted in every locality.

ARNO IRRIGATED LAND CO., Topeka, Kansas.

GOOD RANCH.

3,368 acre ranch, improved, \$5.00 acre. Robertson Co., 7 miles county seat. Adjoining land couldn't be had for twice our price. Would sell part or all. All fine grass and much first class farm land. Detailed description and plat free.

O. A. BABCOCK, Kansas.

NEAR OKLAHOMA.

Seven sections Wheeler county, Texas—practically all tillable, raises big crops, corn, wheat, kafir, milo maize, broom corn, melons and all staples. Good crops here last year. Goes in section lots; extremely reasonable prices.

CAINE & BINKLEY, Cotton Dealers and Owners, Oklahoma City, Oklahoma.

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

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

A Kansas Colt for \$1,250.

E. M. Woodbury of Cawker City, Kan., lately bought the 2-year-old Percheron stallion Rinaldo from Frank Cole of Beloit. Rinaldo now weighs 1,900 pounds and is not fat. He was foaled by Mr. Cole's International prize winning mare and is considered one of the very best Percheron colts in Kansas today. Mr. Woodbury paid \$1,250 for him and will use him at the head of his fine stud.

Colorado Land

CALL OF THE WEST

Why do you rent? Why give the best years of your life working for others? Own your own farm—you can do it on payments less than the rents you are now giving.
BE INDEPENDENT—DO IT NOW.

We have plenty of choice smooth, fertile lands, such as are now producing from 25 to 45 bushels of wheat per acre and yield abundantly of corn, alfalfa, oats, potatoes and other crops, we can sell you at from \$10 to \$25 per acre on good terms.
Write us at once for information as to the splendid opportunities for investment in lands, both irrigated and irrigable, or choice farming uplands.

These lands are in Logan and Weld counties and the famous Crow Creek Valley.

THE BEST OF NORTHWESTERN COLORADO.

Act now and get the benefit of the rapid rise in values.
Some good homestead lands subject to filing.

THE WESTERN LAND CO.

STERLING, COLORADO.

Kiowa County, Colo., Land.

12,000 acres of choice wheat land offered in quarters and half sections. On line of Mo. Pac. R. R., close to three good towns.
Prices range from \$5.00 per acre upward.
Write for terms and descriptions.

ALBERT E. KING.

McPherson, Kansas.

COLORADO LAND AND SUNSHINE.

If you are looking for a home, investment or health, where the climate is perfect, where there is the best class of people, churches, schools and no saloons, where there are thousands of acres of choice land coming under irrigation and selling very cheap, you will do well to write us for new printed matter on Morgan Co., Colo. Address

THE B. W. JACKSON REALTY CO., Fort Morgan, Colorado.

DO YOU WANT A HOME?

Buy now in Washington county, Colo., where choice land, with best of soil, can be had; where good farmers raise from 20 to 45 bu. wheat per acre and oats, barley, corn, speltz, potatoes and alfalfa grow abundantly on upland, without irrigation; in a county rapidly settling and being improved by good thrifty farmers. We have many tracts of choice, smooth, fertile farm land, healthful climate and abundance of good water, at prices ranging from \$8 to \$15 per acre. If you are looking for good investments write or see

Vanderhoof & McDonald, Otis, Colo.

\$1 MAKES ANOTHER — WHERE

In the South Platte Valley, Morgan county, Colo. Money invested in land here will double itself in 3 years. Write for full particulars to

E. E. SEAMAN, Brush, Colorado.

KANSAS LAND

BEST BARGAIN IN CENTRAL KANSAS

160 acres in Rush county, Kansas, land rolling, 120 acres under cultivation, balance rough land but good pasture, rented for 1/4, delivered at market; no improvements. Is a snap at \$3,000.

If you want a good wheat, alfalfa or stock farm at a reasonable price, in one of the best counties in central Kansas, write

JAS. H. LITTLE, The Rush County Land Man, LaCrosse, Kansas.

A 30 DAY FARM BARGAIN.

480 acres fine improved, smooth, 7 miles to station, new eight room house, land all fenced, two pastures, two windmills, improvements are worth \$5,000; as fine a farm as there is in western Kansas; close to school and church, about 300 acres in wheat, one-fourth of all crops go to purchaser. Price \$18,000; \$12,000 cash, balance five years at five per cent. This farm is actually worth \$25,000. Come and look it over or write

Kinsley, C. H. LIPOLDT & CO., Kansas.

FIELD NOTES

FIELD MEN.

O. W. Devine.....Topeka, Kan.
Jesse R. Johnson.....Clay Center, Kan.
R. G. Soilenbarger.....Woodston, Kan.

PURE BRED STOCK SALES.

Shorthorns.

March 29—C. W. Daugherty, Sedalia, Mo.
June 10—C. S. Nevius, Chiles, Kan.

Poland Chinas.

May 17—Roy Johnston, South Mound, Kan.
Aug. 11—E. H. Davidson, St. John, Kan.
Oct. 20—Roy Johnston, South Mound, Kan.
Oct. 26—G. M. Hull, Garnett, Kan.
Nov. 1—H. B. Walter Effingham, Kan.

For \$9,000 cash you can buy a 160-acre farm in Stafford county, Kan., nearly all in wheat. One-third of the crop goes with farm, possession in September, 1910. Write Chas. P. Fields, Macksville, Kan., for full particulars.

C. H. Lippoldt & Co., of Kinsley, Kan., are offering 450 acres of fine western Kansas land with \$5,000 worth of improvements for \$18,000. This farm is actually worth \$25,000. They invite inspection. See further particulars under Kansas Lands in this issue.

State Dairy Commissioner D. M. Wilson will hold official examinations of cream buyers at Hutchinson on March 29; Great Bend, March 30; Kinsley, March 31 and Garden City on April 1. Residents of the different counties in that section of the state who desire to take these examinations should note these days and apply for them at these points.

The insurrection of the chinch bugs seems to have begun in Sumner county, at least reports indicate that that county is more infested with these pests than others. Investigations seem to show that the burning of rubbish and prairie grass result in practical destruction of the entire number of bugs and the only hope for the protection of the farmers against this insect would seem to be in cooperative action, by which the whole territory can be covered; the stubble and prairie grass burned off and other preventive measures adopted.

Editor Kansas Farmer:

My advertising in Kansas Farmer has been entirely satisfactory and I have sold everything I care to sell. I have reserved a show herd to exhibit at the state fair. Thanks for your good work for me.—H. T. Hineman, Breeder of Percherons, Herefords and Jacks, Dighton, Kan.

Mr. G. A. Laude, of Rose, Kan., who is secretary of the Woodson County Breeders' Association, lately joined with his neighbor, Robt. Vise and purchased the Shorthorn herd of Dr. C. M. Coe, of Kansas City. This small herd of eighteen animals was divided equally between these two gentlemen, who bought nine other animals in partnership. Included in the latter purchase is the great herd bull Careless Conqueror 2d by Imported Conqueror out of Imported Blythesome 15th. This bull was bred by Senator T. J. Wornall of Liberty, Mo., and is just coming 4 years of age. In his yearling form he stood first at the Missouri State Fair and second at the American Royal in hot competition.

The Parlin & Orendorff Co., of Canton, Ill., manufacture the most complete line of cultivators made by any one factory in the country. Their line consists of Walking, Riding, Combined, Double-Row, Surface, Tongueless, Beet, Listing, Disc, Orchard, Garden and others, and each style is furnished with any and all kinds of gangs and other cultivating appliances. The P. & O. is a standard, high-grade line, sold exclusively by retail dealers in all sections, and is backed up by a record of 68 years of experience. P. & O. Canton Plows, Harrows, Planters, Cultivators and other implements have been used by three generations of American farmers, a worthy tribute to their excellent features. The Parlin & Orendorff Co. will be pleased to send a catalog to any address. Attention is called to their advertisement in this issue.

Jesse R. Johnson, Fieldman, Kansas Farmer:

After looking over my letters and inquiries for catalogues I find that nearly all of them can be credited to you and the Farmer and I certainly appreciate your services. Had your Kansas friends known the size and quality of my pigs they would have sent higher bids, but as it was they were a great help in making my sale a success. The prospects are very favorable for another crop of pigs. I have 70 to date and several sows yet to farrow should they pull through all right. I shall depend on you helping to sell them. Call around and see us when convenient. With best wishes for you and the Kansas Farmer and thanking you for your valuable services, I remain, G. S. Hamaker, Pawnee City, Neb.

Eggs from High Scoring Pens.

With this issue B. H. Carrithers, of Severy, Kan., is advertising White Wyandotte eggs for sale, \$1.50 for 15. Eggs from his best scoring pens. Mr. Carrithers is cashier of the Severy State Bank and has some very fancy birds. If you wish to improve your flock send and get eggs from these pens. Kindly mention Kansas Farmer when you write.

A. B. Hoffman's Consignment.

March 29 and 30 will be an excellent opportunity to buy some choice Poland gilts and one very choice Poland China boar. These are September farrow, sired by Controller and out of a Corroctor dam. These are full sisters and brothers to Mr. A. B. Hoffman's 1907 show herd. Look up the ad of the Greenwood county Association and send a bid to this sale.

Long Bros. at Fredonia, Kan.

One of the reliable real estate firms that have been selling real estate for the past

KANSAS LAND

PHILLIPS COUNTY corn, wheat, and alfalfa lands, \$40.00 to \$50.00 per acre. Prices rapidly advancing. Write or see L. E. COUNTRYMAN, Phillipsburg, Kan.

Smith, Decatur and Sheridan County corn, wheat and alfalfa land; lowest prices, best terms. Write or see PETER PYLE & SON, Kensington, Kan.

Corn, wheat and alfalfa lands, in Smith, Phillips and other Counties; reasonable prices, good terms. Write or see H. E. HALBERT, Kensington, Kan.

FREE—32 page booklet, brimful of interesting and valuable information about Smith county and corn and alfalfa land. Mahlin Bros., Smith Center, Kan.

FOR REPUBLIC COUNTY

corn, wheat and alfalfa lands, at reasonable prices on good terms, write or see Hall & Cartensen, Belleville, Kan.

BARGAINS IN LAND.

A well improved 10,000 a. ranch in Sherman Co., \$10 per a., easy terms, also other smaller ranches and 100 scattering quarters and half sections from \$9 to \$12 per a.

M. ROBINSON, the Land Man, Goodland, Kansas.

CORN, WHEAT AND ALFALFA LANDS in Cloud, Washington and Republic counties, where all staples produce bountiful crops and prices are advancing rapidly. Best section of Kansas for a home or investment. Write for free list. Nelson Land Co., Clyde, Kan.

JEWELL COUNTY FARM.

330 a. near county seat, 140 alfalfa, 50 bottom, 105 pasture, bal. in cultivation; 10 frame buildings, abundance of water. Price \$50.00 per a. Other corn, wheat and alfalfa farms.

GREEN REALTY CO.,

Mankato, Kansas.

CORN, WHEAT, ALFALFA.

Norton county corn, wheat and alfalfa lands at \$20 up. Lands are rapidly advancing—now is the time to buy. Write me what you want—I will try to suit you.

W. J. GRAY, Norton, Kansas.

IDEAL HOG AND ALFALFA FARM.

325 acres, 2 1/2 miles of Anthony; 80 alfalfa, 200 in cultivation, balance fine pasture with never failing stream of clear water; well fenced; large house and barn, both new. Price \$16,000. Liberal terms. Other farms. Smithson-Holaday Realty Co., Anthony, Kan.

STAFFORD COUNTY BARGAIN.

160 acres, 4 1/2 miles of Macksville, Kan., nice level land, well improved, good house, near school and church, nearly all in wheat, one-third crop goes with farm; possession in September, 1910. Price \$9,000. Call or write CHAS. P. FIELDS, Macksville, Kan.

CORN AND ALFALFA FARMS.

Where all staples grow to perfection, at \$35.00 to \$65.00 per acre. Lands are advancing rapidly and offer the best opportunities in Kansas for homes or investments. Write me what you want. I will try to suit you.

John Reitz, Lebanon, Kan.

\$12,000.00 finely improved quarter, 2 1/2 miles Smith Center, 120 acres plow, balance pasture; all fenced, half hog tight; 13 room house, large barn and six other buildings, all painted white with red roofs. A real bargain.

L. N. DUNDAS & SON, Smith Center, Smith Co., Kan.

500 ACRES, 6 miles Smith Center, county seat; 350 under cultivation, 140 wheat, 50 alfalfa and hay, 160 pasture; balance for corn; extra good house, barn, well windmill, outbuildings, 1-3 all crops go if sold soon. \$40.00 an acre. Other farms.

RECORD REALTY CO.,

Athol, Kansas.

\$15.00 PER ACRE QUICK SALE—Fine 800 a. farm and stock ranch four and one-half mi. from Kanorado, Colo., big frame barn for horses and cattle, conveniently arranged. Hay mow, cattle shed and granary for 1,000 bu. of grain; good sod house and cave, fenced and cross fenced, all tillable, 175 a. under plow. Easy terms.

G. W. Sapp, Goodland, Kan.

FOR SALE—Fruit and alfalfa farm, 160 a., all bottom land, three miles from Lyons, county seat of Rice Co., 9 room house, barn 20x40 ft., granary 1,000 bus., many other buildings, good well, Cow creek flows through farm, 24 a. bearing orchard, 10 a. timber in 20 a. pasture, 30 a. alfalfa, 75 a. for spring crop, balance in lots and garden. This farm must be seen to be appreciated. Nodurt & Torrey, Lyons, Kansas.

FOR SALE—A splendid 89 acres of land within one mile of Fredonia with buildings almost new. A splendid 9 room dwelling with bath, good cistern, a large new barn, poultry house and everything in first class condition. This is one of the best farms in the county for someone who wants to live close to town and have all the advantages of living in town. The land is well fertilized and house is furnished with gas. Price \$90 per acre. No trade. Address C. R. CANTRALL, Fredonia, Kansas.

I HAVE SOLD my half section near Colby and now offer a fine, smooth quarter 3 miles from Brewster, Kan., no improvements excepting 40 acres under cultivation, school house across road from it. This quarter is choice and is offered for the small sum of \$2,200.00 cash.

Another smooth quarter, 14 miles from Brewster, 55 acres under plow, sod house, good well and new wind mill and a bargain at \$2,000.00 cash.

These are bargains and must be sold soon. Address

IKE W. CRUMLY, Brewster, Kan.

A SUBURBAN HOME.

600 acres, adjoining Smith Center, county seat of Smith county, Kansas, a city of 2,000 population with electric lights, water works and other modern conveniences; all level, 550 acres in cultivation, 85 alfalfa, 300 wheat, 245 for corn, balance pasture; 2 sets light improvements worth \$2,500. Price \$70 an acre. Will be worth \$100 shortly. An ideal farm for a man who wants to enjoy city conveniences and give his children the advantage of city schools.

HOBBES & DETWILER, Owners, Smith Center, Kansas.

Virginia Farms!

New list of farms ready. Only special bargains picked from large list. They are exceptional values. We tell you all about the country in our catalogue, but come and see it for yourself. We want to show you. Address

MIDDLE-ATLANTIC IMM CO.
Commonwealth Bank Bldg., Richmond, Va.

EXCHANGE COLUMN

FOR SALE OR EXCHANGE—Farms and stocks of merchandise in Kansas, Missouri and Oklahoma. Write me. **FRANK SEELY**, 402 Ridge Bldg., Kansas City, Mo.

FOR EXCHANGE—Farms and city property in various states. List your exchanges with us. **Western Investment Co.**, 406 R. A. Long Bldg., Kansas City, Mo.

FOR EXCHANGE—Missouri and Kansas farms and city property. List free. Est. 20 years. **G. W. Clardy Investment Co.**, 301 Commerce Bldg., Kansas City, Mo.

SALE OR EXCHANGE—Texas, Missouri, Kansas, Oklahoma farms, stocks merchandise for good propositions. Cash considered. **Western Land Exchange** 404-5 Ridge Building, Kansas City, Mo.

FOR EXCHANGE OR SALE—Kansas, Missouri, Oklahoma, Texas farms, city property, stocks merchandise for other good propositions. **McNeal**, 214-15 Finance Bldg., Kansas City, Mo.

BARGAINS FOR CASH OR TRADE. Of all kinds direct from owners of farms, ranches mdse., hardware, hotels, livery barns. Send for our book of trades or cash list. **Bersie Real Estate Agency**, Eldorado, Kan.

920 ACRES PASTURE LAND. Elk county, Kansas, under good wire fence; five miles railroad station. \$20.00 acre. Incumbrance \$5,500. Want merchandise in country town for equity. Other exchanges. **B. F. Carter**, 1216 Commerce Bldg., Kansas City, Mo.

200 ACRES, 3 1/4 miles town. Jefferson county, Kansas, 140 in cultivation, 40 meadow, some timber, fair improvements, good orchard, price \$12,000; incumbrance \$6,000 at 6 per cent. Want western land or town property. **Garrison & Studebaker** **McPherson**, Kan.

FOR SALE OR EXCHANGE. 4700 acres in Ness County; 20 quarters in Ford County; farms and ranches in Pratt and Barber. In the wheat belt; general mdse., hardware, blacksmith for sale. Write us today if you mean business. **I. L. Chinn & Co.** **Costa**, Kan.

WE WANT WESTERN KANSAS LANDS. We have eastern Kansas lands to exchange. Give legal description, stating distance from town, size of town, lowest cash price and what you will exchange for. **McNeill-Martin Inv. Co.**, Merchants Nat'l Bank Bldg., Lawrence, Kan.

PHILLIPS COUNTY, KANSAS. Corn, wheat and alfalfa lands, for sale and exchange; reasonable prices; good terms. Values are rapidly advancing. Buy at once, and you will get a good profit in a very few months. Write today for prices and descriptions. **LEWIS & EDRED**, **Phillipsburg**, Kansas.

TO EXCHANGE FOR KANSAS FARM. Suburban grocery stock, will invoice about \$3,000. Will assume some on farm. Residence properties in Kansas City and 20 farms, Kansas and Missouri, ranging from 80 to 400 acres each, to exchange. **J. E. REED REALTY CO.**, 628 N. Y. Life, **Kansas City**, Mo.

BEST 640 acre farm in Missouri 4 miles Lamar, Barton Co., all rich black prairie land in cultivation, well improved, living stock water, \$65.00 per acre; \$15,000 long time loan. Owner would trade for mdse. Exchange list free. **C. B. Rhodes Real Estate & Investment Co.**, 400 Heist Bldg., **Kansas City**, Mo.

FOR SALE OR EXCHANGE, WEST CENTRAL KANSAS LAND. Wheat, corn and alfalfa lands, Lane and Cove counties, \$15.00 to \$25.00 acre. Prices advancing rapidly. If you have a good trade to offer write us. **W. H. Dayton Land Co.**, **Abilene**, Kan.

We have selected list good farms to exchange for mdse. Full information wanted. We'll exchange your property. Let us know what you have and what you want. Good running stocks merchandise to exchange for farms and ranches. **Ernest Lovan Investment Co.**, 517-21 Finance Bldg., **Kansas City**, Mo.

FOR SALE AND EXCHANGE. Kansas and Missouri farms for city property, stocks merchandise and other farms. Describe what you have, will make you a good trade. List your farms for exchange with us. **R. R. Woodward Real Estate & Investment Company**, 204 N. Y. Life Bldg., **Kansas City**, Mo.

FOR SALE OR EXCHANGE. Western Kansas lands. Will exchange for other land, stocks, merchandise, income property, etc. If you have a good trade to offer, write us. **THE INTERSTATE LAND & TRUST CO.**, Central Office Bldg., **Salina**, Kan.

FOR EXCHANGE. \$8,000 hardware stock, only one in town of 700. Lyon county, Kansas; also fine 3 room residence, price \$2,500. Will exchange for well improved land, incumbered property not considered. Quick deal can be made if made at once. **H. W. White Land Co.**, **Phillipsburg**, Kan.

NICE HOMES, GOOD BARGAINS. 40 acres close to Emporia, choice land, good improvements, close to school, \$6,000; 184 acres, half good creek bottom, living water, good improvements, \$65 per acre; 320 Greenwood county, well improved, splendid land, fine orchard, \$45 per acre, would take smaller farm on this. **J. M. McCown**, **Emporia**, Kan.

Editor Kansas Farmer.—"I have had more inquiries through my advertisement in the Kansas Farmer than through any other paper."—N. Housinger, Sharon, Kan.

ten years are the Long Bros. at Fredonia, Kan. The writer has been calling on the Long Bros. for the past seven years and has always found them perfect gentlemen in every way. They are men that are responsible for what they say and their word is equal to a government bond. They have a large list of farms for sale; also a large list of exchange property. If you are looking for a real bargain it might pay you to write the Long Bros. Kindly mention Kansas Farmer.

Bargain Prices for Evergreens. E. O. Farrar, proprietor of Abilene Nurseries, was in Topeka this week, arranging to furnish a number of Topeka folks with a large number of his famous Chinese Arborvitae Evergreen trees. He dropped into the Kansas Farmer office long enough to say that his stock this year is in the best of condition and that his trees were in good demand, especially with those who purchased them in previous years. He is making low prices this season to move his surplus stock quickly, as his work makes this necessary. If you want hardy, quick growing evergreens don't fail to write Mr. Farrar today for his descriptive circulars and prices.

Drybread and Baker Make Good Sale. The Duroc Jersey bred sow sale held by Tom Drybread and J. J. Baker on March 16 was attended by a large crowd of farmers and breeders. The offering was a good, useful lot of tried sows and spring gilts. The bidding on all those bred early was brisk and they sold for good values. The top was \$104, paid by Roy Adams for a sow by Buddy K. 4th. The entire offering of 62 head sold for \$2,188 or an average of \$35.30. Col. Frank Zaun, of Independence, Mo., did the selling. Col. Zaun is an able auctioneer. In his opening remarks he paid a very high compliment to the newspaper fraternity in being able to encourage the breeders to attend the sales and help push the breed they most love and admire. For the lack of space we omit report in full.

The Ellinwood Disc Sled. The Ellinwood Disc Sled, manufactured at Ellinwood, Kan., is the only machine of its kind with dust proof bearings. It is adapted especially for the cultivation of corn and the working down of lister ridges for wheat. It has been supplied in great numbers to the farmers of the southwest and meets their entire approval as being a machine that is perfectly adapted to its purpose. This same factory also turns out a two-row sled which is capable of working down through lister ridges for wheat or will work down a single row of corn. The machine is thoroughly guaranteed and the manufacturers have plenty of testimonials to show that, when properly handled, it will do better work than any other sled on the market. These machines are for sale at all of the implement and hardware stores, as a rule, but if your dealer does not handle them, write to the Ellinwood Disc Sled Co., Ellinwood, Kan., and they will send you a price list and other particulars if you mention Kansas Farmer.

House Plans for Everybody. The enterprising firm of Gordon-VanTine, Davenport, Ia., have issued a beautifully printed and elaborately illustrated book of plans for houses, barns, cottages, ranch houses, corn cribs, granaries, ice houses, poultry houses, implement sheds and automobile houses. They have adopted the novel plan of furnishing complete blue print drawings and specifications with bills of material for very low price. The working drawings include the front view of the house, the right side, the left side and the rear view, with a plan for the basement and other floors, and complete specifications of labor and material required. The book of plans is sent free to readers of Kansas Farmer and if you should order the material for any building illustrated therein you will be given a rebate covering the cost of the plans and specifications. The book of plans is full of new and beautiful suggestions for buildings and is well worth having in one's library. Write at once and tell them what you are planning to build and they will furnish you full information if you mention Kansas Farmer.

Great Roofing Sale. The Gordon-Van Tine Co., of 1933 Case St., Davenport, Ia., has been compelled by over-production and lack of storage facilities, to unload its surplus of Preferred Roofing at sacrifice prices. The Gordon-Van Tine Roofing warehouses in six different cities are clogged with this oversupply. The company has inaugurated a great clean-up sale, cutting prices right and left. Gordon-Van Tine Roofing is widely known as the best brand for farm buildings. The price on the 1-ply Roofing has been cut to \$1.25 per roll of 108 square feet. The 2-ply has been cut to \$1.50 per roll and the 3-ply to \$1.80 per roll. This great sale comes at an opportune time as everybody needs more or less roofing in the spring to repair the damage wrought by winter storms. The roofing warehouses of Gordon-Van Tine are located in Davenport, Chicago, St. Louis, Kansas City, Minneapolis, Oklahoma City and Philadelphia. Shipments are made from the warehouse nearest the customer. All correspondence is carried on from Davenport, Ia. We urge all our readers who are going to require roofing this spring to get in communication with Gordon-Van Tine Co. while the big sale is going on. Samples of the Roofing are being distributed free.

Stewart Makes Great Sale. The O. M. Stewart Poland China sale held at farm near Leonardville, Kan., March 17, was well attended by farmers and good prices prevailed. Most of the offering was bred for late farrow but this appeared to make but little difference to the crowd. The catalogued stuff averaged better than \$40 per head. Jas. W. Anderson of Leonardville topped the sale at \$61, buying the great sow Lady Whiteface (83539). Following is a list of representative sales.
Herd boar Modest Joe, J. W. Carnahan, Clay Center, \$44.
1—A. Hayden, Leonardville.....\$41
2—Jas. Iams, Clay Center.....35
3—Axtel Linn, Leonardville.....33
4—C. F. Haake, Green.....38
5—J. W. Anderson, Leonardville.....37
6—Tom Brooks, Manhattan.....39
7—Jas. Iams.....31
8—F. M. Gifford, Wakarusa.....36
9—John Barkyurn, Clay Center.....30
10—F. M. Gifford.....35
11—L. Z. Pierce, Riley.....39
12—Frank Harner, Green.....37
13—Tom Brooks.....37
14—Stephen Renninger, Riley.....46
15—O. Sweedburg, Leonardville.....55
16—J. W. Carnahan.....49
17—Frank Harner.....53
18—C. F. Haake.....41
19—F. M. Gifford.....55
20—L. Koonse, Winkler.....46
21—E. B. Amcoats, Clay Center.....53
22—E. J. H. Spence, Green.....25
23—Chas. Johnson, Leonardville.....35

FRANK IAM'S

"Selling Clothes" will fit all buyers for "60 days." He has all his "Prize Winners" and largest horses on hand. His 1910 Imported Stallions and Mares have all competitors "skinned to a frazzle." They are "rosy ripe" and in the "pink of condition." All imported September, 1909, and fully acclimated. They are "Live Wire" "business propositions," that "knock the persimmons" on a "wide-awake" "horse buyer's Easter hat." Iams' "Peaches and Cream" imported stallions and mares are "Eye-Openers" "Big Diamonds" (compared with others). His barns are full of big bargains, and all must "positively be sold in the next 60 days. IAMS

80 Prize and Medal Winners

at Paris and Brussels, and leading European "Horse Shows" are still in "Iams' Big Barns." "Ikey Boys" get into Iams' "money saving game." Buy a stallion and mare today—\$300.00. Iams "tickles" buyers with "Rippers" at "Let Live Prices." Owing to bad crops, panic—Iams' cash, his 27 years' successful business, he bought and sells horses cheaper than ever. Mama, Iams is a "hot advertiser" but, "he has the goods" and sells horses at his barns only. Buyers get the "middleman's profits" at Iams. Iams has



110 Percherons and Belgians

Two to six years old, weighing 1,700 to 2,500 lbs.; 90 per cent blacks, 50 per cent ton stallions. All registered and branded. He sells "Toppers" at \$1,000 and \$1,400 (few higher), mares \$700 to \$1,000, so good that they need not be "peddled" or put on the "auction block" to be sold. Iams' "selling clothes" fit all buyers. No man with money or bankable notes gets away from Iams. He buys, owns and sells more stallions than any man in the United States; saves thousands of dollars to stallion buyers. He is not in the stallion trust. Iams places \$1,500 insurance. \$1,000—Saved at Iams—\$1,000. Ikey, what a "graft" these "stallion" salesmen are working on the farmer, selling fourth-rate stallions at \$2,000 and \$5,000! Mr. Buyer, see Iams' stallions yourself. Take no salesman's word. "Iams has the goods you read about." His establishment is worth going 2,000 miles to see. Iams saws wood, "butts in," sells more stallions each year. He makes every statement good. Big Bill, buy a stallion of Iams. His \$1,200 stallions are much better than our neighbor paid those Ohio men \$4,000 for. Then I can wear diamonds. Iams speaks the language, buys direct from breeders, pays no buyers, salesmen, or interpreters; has no two to ten men as partners to share profits with. Iams guarantees to sell you a better stallion at \$1,000 to \$1,500 than are sold to stock companies at \$2,500 to \$5,000 by slick salesmen, or pay you \$500 for your trouble, you the judge. Iams pays horses' freight and buyers' fare; gives 60 per cent breeding guarantee. Iams' guarantee is backed by half million dollars. Write for Million Dollar Horse Catalog, Greatest on Earth.

References—First National Bank, Omaha; Omaha National Bank, Omaha, Neb.; St. Paul State Bank and Citizens' National Bank, St. Paul, Neb.

ST. PAUL, NEBRASKA.

SHORTHORN DISPERSION

—AT—

GLEN ECHO FARM SEDALIA, MO.

On TUESDAY MARCH 29, 1910.

Having sold Glen Echo Farm, the entire herd of cattle will be sold. There will be in this sale, three of the highest classed bulls to be found in the country. My herd bull, SECRET GOODS, and his calves on sale day, will furnish the evidence of his worth as a sire. The two young bulls, GUIDING STAR and COLUMBIA'S CHOICE, are as good as any would wish to look at, and their breeding is gilt edged.

The females consist of VILLAGE MAID, SECRET, BUTTERFLY, VIOLET, DUCHESS OF GLOSTER, GIPSY MAID, and other families, including the famous imported LADY STAR, the dam of GUIDING STAR, and WHITE WINGS, a granddaughter of Imp. ETHEL. Many of these cows will have calves at foot on sale day, by SECRET GOODS.

I will also sell two good breeding jacks, some registered jennets, and about 20 head of horses, mares and colts, some of which are saddle and harness bred. Will also sell eight good milch cows.

Sale will be under tent, rain or shine.

Parties from a distance will be furnished free transportation to and from the farm, from Sedalia.

Catalog mailed upon request.

Auctioneers: R. L. Harriman, C. J. & Kemp Hieronymus, R. A. Harkless and C. N. Henry.

C. W. DAUGHERTY
SEDALIA, MO.

SWEET POTATOES

of all kinds and all kinds of plants lowest prices. Yellow Jersey per bu. 70 cts.; Yellow Nansmond per bu. 70 cts. We have Red Bermuda, So. Queens, Black Spanish, Red Jersey, Red Nansmond So. Yams and others, \$1.50 per bu. Write for our list.

HAYES PRODUCE CO.,
524-526 N. Kansas Ave.,
Topeka, Kansas.

Greenwood Co. Improved Stock Breeders' Sale

At Eureka, Kansas, Tuesday and Wednesday, March 29 and 30

TUESDAY, MARCH 29

40 -- Duroc Jersey and Poland China Hogs -- 40

DUROC-JERSEYS.

R. D. Martin & Sons, Eureka, Kan., consign six sows and gilts, mostly by Dandy Duke, Reserve Champion at American Royal, 1907, and they are safe in pig to Tatarax Model. Charles Stith, Eureka, Kan., consigns five head, three open gilts and two bred to Dew Drop Commodore, a grandson of the Grand Champion Commodore. They are out of granddaughters of Kant Be Beat and are show-yard material.

T. I. Woodall, Fall River, Kan., consigns five head, four spring gilts and one fall yearling—one Tatarax, two Col's, one J. D.'s Improver and one Bell's Chief.

POLAND CHINAS.

A number of excellent Poland Chinas will be consigned by A. B. Huffman and others. Only high class stock entered for sale.

Don't miss this sale; send your name today for catalog. Address Sec. Geo. Auctioneers—Lafe Burger and Lon Smethers. O. W. Devine representing

WEDNESDAY, MARCH 30

40 -- Shorthorn and Hereford Cattle -- 40

SHORTHORNS.

H. M. Hill, La Fontaine, Kan., consigns a few cows and 5 pure Scotch bulls sired by Imp. Collyne. H. G. Bookover, Eureka, Kan., contributes some good young stock. Wm. F. Hodgson, E. E. Gilliland, D. Badger, Eureka, Kan.; J. T. Bunch, Lacygne, Kan., and others will consign Shorthorns.

HEREFORDS.

B. M. & W. J. Brown, Fall River, Kan., consign six young bulls by Advance by Lord Saxon and out of cows strong in the blood of Grove 3rd, Corrector and Anxiety. Also four cows, two with calf at side. Robert Simmons, Severy, Kan., and others will contribute.

Tucker, Eureka, Kan., or Pres. B. M. Brown, Fall River, Kan. the Kansas Farmer.

KANSAS LAND

320 ACRE improved farm, 175 in cultivation, 11 in ash grove, 250 level land, balance hay and pasture. A snap at \$8,400. \$1,000 down, balance March 1, 1911. Other corn, wheat and alfalfa farms.

W. J. GRAY, Norton, Kansas.

320 ACRES, 160 in cultivation, balance pasture and hay land, fenced and cross fenced, 105 acres in wheat, 15 fenced hog tight, two room frame house, barn for 10 head horses, good well and mill, on R. F. D. Price \$22.50 per acre. Other farms. NORTON LAND CO., Norton, Kan.

Buy This if You Want a Good Farm

160 a., 6 miles from Newton, 1 1/2 miles from market. Good six room house, barn 30x40, all rich bottom land, can't be beat for alfalfa, corn and wheat. Price \$12,000, half cash. 200 other good farms for sale right.

SOUTHWEST LAND CO., Newton, Kansas.

WANT A FINE FARM?

Here it is, right in the Great Moran Valley. It consists of 160 acres of fine smooth land and the soil is a dark limestone loam. Every foot of this farm can be cultivated. It lays almost as level as a floor and is conceded one of the very best farms in the valley. It is fenced into four fields with hedge and wire. This place is located only two miles from a thriving little town on two main lines and one branch road. It is twelve miles from the county seat, a city of over 15,000 people. The improvements consist of a new five room cottage, new barn and several other good buildings a five acre box lot fenced with new woven wire, nice young orchard, splendid well of water and good cistern. Price \$70 per acre. It is a great bargain and will not be on the market long. Write for free list of other farm bargains and map of Kansas.

THE BEDWELL-TEATS REALTY CO., Iola, Kansas.

TREES

You can save from 25 to 50 Per Cent buying Nursery Stock direct from me. I prepay transportation charges on every order, large or small. You have no unexpectedly large freight or express bills to add to the cost of your order. The money-saving price you pay me means for trees at your station. All trees guaranteed true to label, hardy, large size and satisfactory. Send for my catalogue and get a list of my Delivered-to-you Nursery Bargains. Better write now.

NATIONAL NURSERIES, Box 2004 Lawrence, Kansas.

SEED CORN

Plant Boettcher's Early White Dent, the result of 12 years' careful breeding. Seed all gathered before the freeze. A yield of 80 bu. per acre is not uncommon. 500 bu. selected, graded and shelled. Price \$1.75 per bu. These prices f. o. b. cars. Order now.

JOHN F. BOETTCHER, Holton, Kansas.

SEED CORN.

Kansas Sunflower and Boone County White, two leading varieties recommended by the Kansas State Agricultural College. Seed gathered early, high germination. Price \$1.50 per bushel.

C. P. NETTLETON, Lancaster, Kansas.

SEED CORN IN DEMAND.

Have you any for sale? You can find a ready sale by running a "classified ad" in next week's Kansas Farmer. These little ads go before more than 50,000 possible customers each week for the very low cost of 3 cents per counted word for each insertion. Read the top of page 6 in this issue then notice the ads. You can get quick sales and good prices by sending in your ad copy and remittance by return mail.

Don't Have a Blind One

Wonderful Discovery
"VISIO"



MOON BLINDNESS and all Diseases of the Eye successfully treated with this NEW REMEDY. Money Back if it fails to cure. \$2.00 per bottle postpaid on receipt of price, Visio Remedy Ass'n, Dept. 9 1633 Wabash Av., Chicago, Ill.

Used 25 Years, Cures Sweeney, Spavins, Lameness, Marvelous Success. 165 N. Pecan St., Los Angeles, Cal., Feb. 14, '09.—Dr. B. J. Kendall Co., Gentlemen: I have used your Spavin Cure for over 25 years for treatment of horses for Sweeney, Spavins and general lameness. I believe that it has no equal. I have had a large experience with its use and marvelous success, and most heartily recommend it as a general purpose liniment. Respectfully, C. K. Edwards.

Neosho Poultry Yards

Established in 1882. Rose Comb R. I. Reds. We got second on pen at Emporia, Kan., Dec., 1909. Prices reasonable. J. W. Swartz, Americus, Kan.

WHITE WYANDOTTE EGGS for sale, \$1.50 for 15, from high scoring pens. B. H. Carrithers, Severy, Kan.

COLUMBIAN WYANDOTTES. This breed is beginning to lead all others at eastern shows. Fifteen ribbons on my stock last season. Winter laying record hard to beat. Eggs from the best. No fancy prices. THEO. H. SCHEFFER, Manhattan, Kansas.

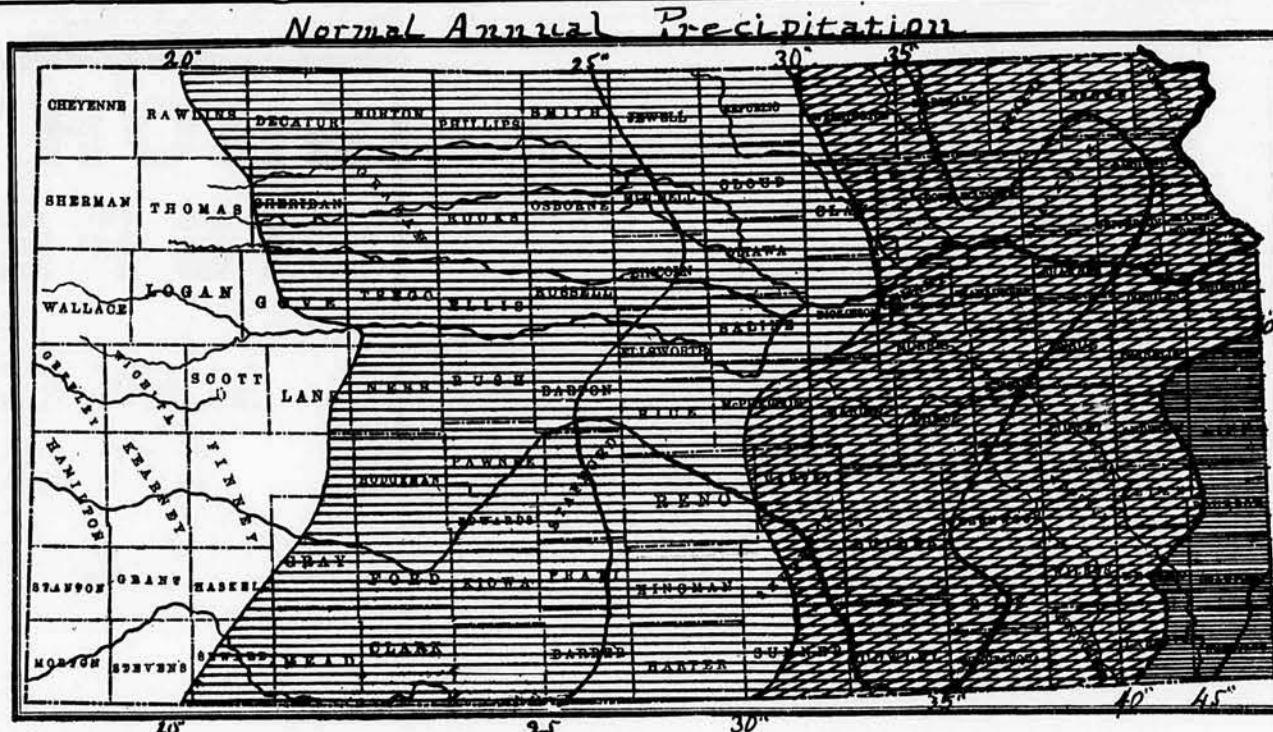
GOLDEN WYANDOTTE EGGS FOR SALE—Pure bred stock. Eggs 75 cents for 15. MRS. DELLA BILSON, Box 247, Eureka, Kan.

EGGS for sale, S. C. Brown Leghorn and S. C. Rhode Island Red, \$1.00 for 15; \$4.50, 100. Special matings both breeds. Mrs. T. I. Woodall, Fall River, Kan.

WHITE WYANDOTTE EGGS

for sale from six grand yards, scoring from 83 to 96 points. Send for catalogue and prices. E. E. BOWERS, Bradshaw, Nebraska.

A splendid incentive to attendance is to get from the secretary a record of the attendance at each meeting of last year and post it conspicuously on a neatly-lettered card near the lecturer's station. Then appeal to the members to better it this year, give them the best of programs and fill in, night by night, the 1910 attendance alongside the other. The idea will take well and it will get results.



Herewith is given a map of Kansas, showing the normal annual precipitation compiled from data now on file in the office of Section Director T. B. Jennings, United States Weather Bureau, Topeka.

This is the first time this map has been made public and the first time that the facts upon which it is based have been compiled. Section Director Jennings reports that the increasing demand upon the Weather Bureau by the public for information regarding the monthly, seasonal and annual distribution of rainfall, particularly in Western Kansas, has made it desirable to compile the statistics available and prepare the map which is shown herewith.

Following is a table showing the point of observation, the length of record and the annual precipitation.

For comparison with reports during the ensuing season, it is suggested that this map and table be preserved, as it is not likely to appear again. It will be noticed that the state has no territory in which the normal annual precipitation is as low as 15 inches, though there have been years within the record when the reported precipitation was much less than this.

Stations—Counties.

Eastern Division—
Agricultural College, Riley.....51 31.12

Atchison, Atchison	20	37.41	Hays, Ellis	41	32.89
Burlington, Coffey	10	27.25	Hutchinson, Reno	12	28.44
Columbus, Cherokee	19	45.12	Larned, Pawnee	24	22.96
Emporia, Lyon	28	33.20	Lebanon, Smith	10	23.65
Eureka, Greenwood	13	35.53	Macksville, Stafford	20	24.44
Fall River, Greenwood	10	36.40	McPherson, McPherson	20	32.32
Fort Scott, Bourbon	34	41.70	Marion, Marion	16	30.60
Frankfort, Marshall	14	36.38	Medicine Lodge, Barber	16	24.89
Grenola, Elk	22	33.30	Minneapolis, Ottawa	19	25.29
Horton, Brown	20	33.35	Mt. Hope, Sedgwick	11	27.37
Independence, Montgomery	36	37.95	Newton, Harvey	10	31.25
Kansas City, Mo., Jackson	33	37.28	Norwich, Kingman	10	28.27
Lawrence, Douglas	41	36.63	Phillipsburg, Phillips	18	23.05
Leavenworth, Leavenworth	73	34.80	Pratt, Pratt	10	24.78
Lebo, Coffey	22	37.85	Rome, Sumner	23	30.12
Manhattan, Riley	16	32.08	Russell, Russell	10	21.91
Moran, Allen	10	38.98	Sallina, Sallina	25	27.34
Olathe, Johnson	10	38.68	Wellington, Sumner	14	30.06
Osage City, Osage	10	35.99	Wichita, Sedgwick	33	30.61
Oswego, Labette	15	40.25	Winfield, Cowley	15	33.14
Ottawa, Franklin	14	39.91	Western Division—		
Sedan, Chautauqua	24	35.85	Ashland, Clark	11	22.61
Topeka, Shawnee	33	33.76	Blakeman, Rawlins	12	20.33
Toronto, Woodson	11	38.12	Colby, Thomas	21	17.80
Valley Falls, Jefferson	10	32.40	Coolidge, Hamilton	12	15.51
Wamego, Pottawatomie	12	34.50	Dodge City, Ford	33	28.84
Yates Center, Woodson	30	36.14	Dresden, Decatur	10	28.03
Middle Division—			Garden City, Finney	20	20.75
Alton, Osborne	31	24.62	Gove, Gove	20	21.06
Anthony, Harper	11	27.95	Hoxie, Sheridan	10	16.27
Coldwater, Comanche	12	21.25	Lakin, Kearney	19	16.27
Concordia, Cloud	33	27.47	Ness City, Ness	16	21.04
Cunningham, Kingman	25	25.53	Norton, Norton	10	22.55
Ellinwood, Barton	34	25.79	Oberlin, Decatur	22	22.90
Enterprise, Dickinson	22	29.33	Ulysses, Grant	18	17.24
Hanover, Washington	12	32.51	Viroqua, Morton	20	17.99
			Wakeeney, Trego	26	20.80
			Wallace, Wallace	39	16.66



STALLIONS

MR. FARMER, do you intend to purchase a stallion this spring? We have just received a new importation of 25 been shown to the public, but our sale barn containing this new importation will be thrown open to our customers on March 12. If you want to get in on the ground floor and get your pick from this importation you want to make arrangements to visit us at an early date. They are an extra lot of good, heavy-boned, drafty stallions, ranging in age from two to five years and weigh from 1700 pounds up. They are nearly all solid colors.

We also have 40 head of the above named breeds imported last August and October. They are all first class in every respect both as to their breeding and general make-up and will please the most discriminating buyer.

As to our prices, will say that we will give prospective purchasers prices that cannot help but please, breeding and quality considered. We give a straight 60 per cent guarantee without any life or ends attached to it. SEND FOR OUR 1910 CATALOG. It is free for the asking. Our sale barns are located opposite the University State Farm. Offices in Lincoln Hotel.

WATSON, WOODS BROS. & KELLY CO.,

LINCOLN, NEB.

ROBISON'S PERCHERONS

—FOR SALE NOW—

Twenty-five extra good Imported and American bred Percheron stallions.

PRICES RIGHT.

J. C. ROBISON, - - Towanda, Kansas



HORSE MEN

We want to call your attention to our fine lot of IMPORTED AND AMERICAN BRED STALLIONS AND MARES. SHIRES, PERCHERONS, BELGIANS.

We always have our barn full numbering up to sixty and you would do well to see us before buying elsewhere. Are going to make extra low prices for the next thirty days in order to make room for our spring shipment. We solicit correspondence, and invite you to come and see the grandest lot of horses ever brought together. Will give terms to suit the buyer. Don't buy without looking at these or you will miss a bargain.

L. R. WILEY & SON, Elmdale, Kansas.

BELGIANS and PERCHERONS

I have 22 big Belgian stallions that weigh from 2,000 to 2,500 each. Also have a number of big, heavy, ton Percherons, weighing up to 2,400 each. I am making extremely low prices on big stallions for the next 30 days, and it is to your interest to see them if you want a big boned heavy horse. I can show you the largest Belgians and the best bone and quality that you can find in the United States for the money.

W. L. DECLOW,

America's Largest Horse Importer,

Cedar Rapids, Iowa.

ROSS FARM

Registered

PERCHERON STALLIONS AND MARES, KENTUCKY JACKS, SHORTHORN CATTLE

30 head Imported and American bred mares 2 to 5 years old, several nicely matched teams, a number in foal, 10 head Imported and American bred stallions 2 to 4 years old, all extra good, big boned, smooth fellows fit to head the best herds of registered mares.

Several splendid big boned Kentucky Jacks, 30 head pure Scotch Shorthorn cows and heifers. 5 extra good red bulls coming yearlings, pure Scotch and in fine condition. **GEO. B. ROSS, Alden, Kan.**
Farm adjoining depot, main line A. T. & S. F. R. R.

Percheron Mares and Stallions Registered

Several matched teams of Percheron mares, all blacks, safe in foal by Imported Stallions. Have both imported and home bred mares. Come and see our horses and satisfy yourself.

Our Motto: Top notch animals, square deal, quick sales, small profits. Make your wants known.

DANIEL WREN, Manager,

EUREKA, - - - KANSAS

BLUE RIBBON STOCK FARM

For sale, 20 head of registered Percheron mares. Safe in foal. Color, ages, weights and prices right. Call or write

LEE BROS., Harveyville, Kan.
Farm joins town.

HOLLAND STOCK FARM

IMPORTERS AND BREEDERS OF

Percheron and German Coach Stallions and Mares

Do you want to buy a stallion for cash?

Go to the Holland Stock Farm.

CHAS. HOLLAND, Pro 1.

-1-

Springfield, Mo.

MAASDAM & WHEELER

Breeders and Importers of Percheron Horses.

60 STALLIONS AND MARES to select from. Our stock has size, bone and quality. Stallions and mares from weanlings to 7 years old for sale. Imported and home bred.

FAIRFIELD, - IOWA.

SHETLAND PONIES FOR SALE—20 imported stallions and a few bred mares. We have recently returned from Scotland with the finest importation of ponies ever brought to Nebraska. Write for private sale catalog. **CLARK BROS., Auburn, Neb.**

PERCHERON HORSES, HOLSTEIN-FRIESIAN CATTLE.

Up-to-date Poland China hogs. Write your wants.

H. N. HOLDEMAN,

Meade, Kansas.

FOR SALE—I have a good road or general purpose stallion (Standard bred, but not registered) sired by Douglas Almont (0398) by Allie Gaines, by Almost (23), dam by "Champtonian" by Hambletonian 10. Bred by the present owner, has never been abused and is a sure roal getter and gets good ones. Fine disposition. \$300 will buy him. Address "H," Box 314, Baldwin, Kan.

M. H. ROLLER.

J. O. ROLLER.

Breeders of registered Jacks and jennets. For sale, 14 Jacks and jennets, 14 to 16 hands. All black. We raised all of these Jacks and broke them. We are not speculators and you get them first hands if you buy from us. 39 miles N. W. of K. C. 65 miles W. Leavenworth. 6 passenger trains daily except Sunday, 2 Sunday. Write for catalog—free for asking if Kansas Farmer is mentioned. **M. H. & J. O. Roller, Circleville, Kan.**

Dunham's Percherons

46 splendid stallions and mares arrived Feb. 9. These added to our present stock, afford intending purchasers the finest selection in America. If you want the best horses, horses with bone, quality, size, action and best breeding—if you want fair and liberal treatment, if you want lowest prices consistent with good merchandise visit Oaklawn, headquarters for Percherons in America and renowned for nearly fifty years as the greatest importing and breeding establishment in the world. Catalog shows the place and the horses.

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

WAYNE, ILL.

Percheron Stallions and Mares.

Several nicely matched teams of registered Percheron mares safe in foal, and a few young stallions for sale, ages from three to five years old. Come and see me. **F. H. Schrepel,** Ellinwood, Kan.

75 HEAD JACKS AND JENNETS

All ages up to seven years old. Guaranteed as represented and prices reasonable. Special prices for fall trade. Come and see me. **PHIL WALKER,** KANSAS.

MOLINE,

KANSAS.

35 Jacks & Jennets 35

Few good Percherons and saddle stallions. Jacks 14½ to 16 hands and the very largest that can be found. 40 miles K. C. on U. P. and Santa Fe. Long distance phone.

AL. E. Smith, Lawrence, Kan

H. & H. WOLF and DAVID COOPER

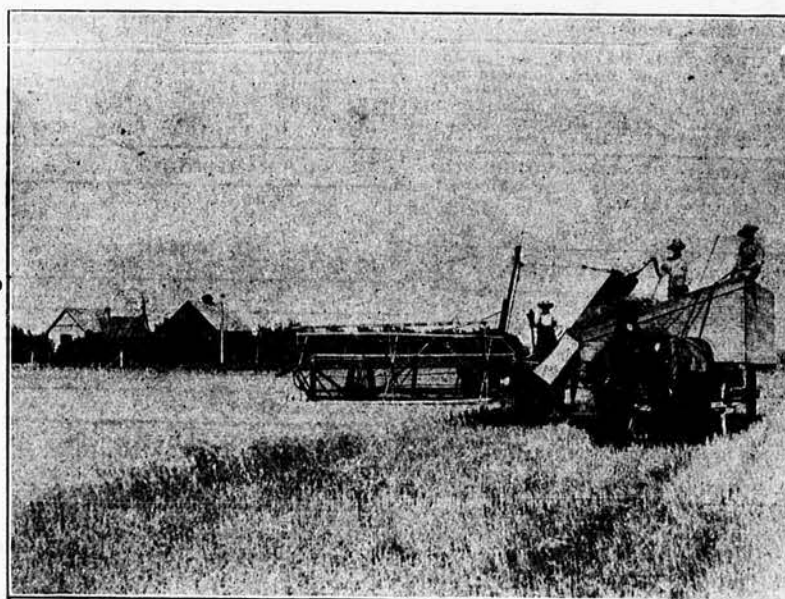
Imported and Home Bred Belgian Stallions.

Branch Barn of **H. H. Wolf,** Wabash, Ind.

The same terms and insurance will be given at Freeport, Kan., as at Wabash, Ind. Several extra good two, three and four year old stallions, one that weighs a ton and ten pounds at 27 months old. All are good individuals guaranteed as represented. Priced reasonable. Write or call and see me.

DAVID COOPER, Mgr.,

Freeport, Harper County, Kan.



The accompanying cut made from a photo of a harvesting scene out in Sherman Co., Kansas calls to mind the wonderful possibilities of this great and rapidly developing county. Ninety-five per cent of the land in Sherman county is rich, level land. The main line of the Rock Island crosses it through the center. On this road is located the rapidly growing business town of Goodland. There isn't a foot of hard pan or gumbo in the county. The soil is rich dark chocolate loam. It has been demonstrated beyond a doubt that wheat, corn, barley, alfalfa and other cereals and grasses can

be successfully grown. The nights are rather cool and the climate delightful. The nearness to the cities of Denver and Pueblo and other mining districts make products of greater value than they would otherwise be. The average rainfall for twenty years has been twenty-six inches. The new railroad incorporated as the Gulf and North Western will begin work next month. This road will traverse Sherman county north and south. Lands, although steadily advancing are still very cheap here as compared with like lands in central Kansas. If you want a farm or ranch write G. W. Sapp, Goodland, Kan.

Low Rates to the Pacific Northwest

In effect daily

March 1 to April 15, 1910

—via—

Union Pacific

"The Safe Road to Travel"

Dustless, perfect track—electric block signal protection—dining car meals and service "best in the world."

E. L. LOMAX, G. P. A.,
Union Pacific R. R. Co.,
Omaha, Nebr.

H. G. KAILL, A. G. FGT. A.,
Union Pacific R. R. Co.,
901 Walnut St., Kansas City, Mo.

Mitchell County Breeders' Association

C. B. KERN, President.

J. F. HOWARD, Secretary.

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

SHORTHORN CATTLE.

SHORTHORN CATTLE—50 head registered cattle. Herd headed by Royal Goods 293325, by Select Goods, by Choice Goods. Young bulls ready for service for sale. **MEALL BROS.**, Cawker City, Kan.

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

LOCUST GROVE HERD SHORTHORNS. Up-to-date breeding with good quality. **ELMER C. CREITZ**, Beloit, Kan.

BOOKDELL STOCK FARM. Shorthorn cattle, Poland China hogs, Silver Laced Wyandottes. **E. E. BOOKER & SON**, Beloit, 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. FLYMAT**, Barnard, Kan.

HEREFORD CATTLE.

HEREFORD BULL CALVES for sale. Berkshire boars for sale, spring farrow. Will trade 2 or 3 for gilts. Boars by Commander out of dam by Speculation; grand dam, Alice Majestic, champion sow at Kansas City Royal. **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 SCHMIDT & SONS**, Tipton, Kan.

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

PERCHERON HORSES.

REGISTERED PERCHERONS—The home of Vidoque (Imp) 40403, also the brood mare Rissette (Imp.) 51115. Inspection invited. Farm adjoins town. **E. N. WOODBURY**, Cawker City, Kan.

REGISTERED PERCHERON HORSES in stud, imported Rabelais 42529, by Cosaque by Theidus, who sired Calipso and Casino. Visitors welcome. **C. J. JOHNSON**, Solomon Rapids, Kan.

THE HOME OF JAQUE W. 42659 by Tlatrey, dam imported Rissette. Inspection of my Percherons invited. **RALPH G. MCKINNEY**, Glen Elder, Kan.

Lengthening the Life of Buildings.

This can be done by preserving, lengthening the life of every wooden structure on the farm with "Avenarius Carbolinum" the only wood preservative, which has stood the test of time, being in use now for over 30 years. With one gallon of "Avenarius Carbolinum" you can paint one square of shingle roof and prevent decay and warping and at the same time impart a nice, durable brown color to your roof. From 40 to 50 fence posts can be painted or dipped 3 feet butt treatment with one gallon of

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, Kan.

COACH HORSES.

LAWDALE STOCK FARM—Oldenburg German Coach Horses. International prize winning stock. A tried stallion for sale. Inspection invited. **JOSEPH WEAR & SON**, Barnard, Kan.

POLAND CHINAS.

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.

EUREKA HERD POLANDS—Durocs. I breed both and have a nice lot of serviceable boars of both breeds for sale, and a few choice gilts. Priced right. **W. H. SALES**, Simpson, Kan.

DUROC JERSEYS.

GOLDEN RULE STOCK FARM—Gilt edged Duroc 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 Duroc Jerseys, Choice boars, fall sows, in fact, most anything you want. **PEARL H. PAGETT**, Beloit, Kan.

HAMPSHIRE HOGS.

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

O. I. C. SWINE.

Tracing to the famous Kerr and Big Mary families. No more males to offer. A few choice bred and open gilts for sale. **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.

"Avenarius Carbolinum" and the life of such a post is doubled, no matter whether the post stands in alkali soil or is a chestnut, pine, oak or of inferior grade of lumber. Without doubt "Avenarius Carbolinum" preserves and is guaranteed to preserve woodwork such as silos, wagons, ice houses, chicken coops, fence gates, farm implements, bridges, water tanks, scale timbers, granaries, hog stables, cattle sheds, etc. For further information, circulars and testimonials please write to the Carbolinum Wood Preserving Co., 518-520 Prairie Street, Milwaukee, Wis.

The Alysdale Shorthorns.

Special attention is called to the change in the advertisement for the Alysdale Shorthorns, owned by C. W. Merriam, Topeka, Kan. This herd is not a large one, but is very select. The owner has taken special pains to secure and maintain only the best blood lines as represented by choice individual animals. Mr. Merriam states that he now has some of the choicest young bulls for sale that he has ever had on Alysdale Farm. As Alysdale is one of the show places of the county it would be well worth seeing even though there were no Shorthorns there. With the beautiful herd of choice Shorthorns, however, a trip to Alysdale is well worth making by anyone interested in good cattle, good alfalfa and good methods of farming.

Metal Horse Collars.

Those of our readers who are old enough to remember having seen a yoke of oxen will recall the fact that the yoke was made of hard, seasoned wood, without padding or covering of any kind. They will also recall the fact that these yokes never caused any bruises or sores on the oxen. With this as a foundation hint, the Johnston-Slocum Company, Cairo, Mich., have invented and for a long time have been manufacturing a patent adjustable metal horse collar, which enables the horse to do his work under all conditions with as little trouble from sore shoulders or neck as the oxen had under the yoke. While these collars are adjustable, it is best to measure the horse's neck so as to get an exact fit and then any little discrepancy can be taken up through the adjustable features. Most farmers are acquainted with the fact that a soft collar, and particularly one which has a sweat pad under it, is a sure cause of soreness in shoulders and neck. They collect and absorb sweat and dust and are very unsatisfactory in every way for a heavy work team. The metal collar is always clean, sensible and durable, and when once fitted will remain fitted. Should the horse fall away in flesh, the collar can be tightened a little and remain a good fit. It does not absorb sweat or rain. So far as the writer has observed, every man who has tried them has proved his satisfaction by ordering more. Drop a line to the Johnston-Slocum Co., Cairo, Mich., and they will give you some information that will be valuable at this time of year.

Announcement.

Kansas Farmer takes pleasure in announcing that it has secured the services of R. G. Sollenbarger as field man for the territory of southern Nebraska and northern Kansas. Mr. Sollenbarger is a young man who has made a conspicuous success as a farmer and breeder and his experience will be of im-



R. G. SOLLENBARGER.

mense value to the breeders of his territory. He knows what the breeders want and is prepared to furnish just such service as they will most highly appreciate. Breeders are invited to avail themselves of the services of Mr. Sollenbarger and any courtesies shown him will be appreciated by the Kansas Farmer Co.

J. A. Fee & Son Percherons.

One of the reliable importers and breeders of Percheron horses in Kansas is the firm of J. A. Fee & Son at Stafford, Kan. Mr. Fee and his son spent a large part of a year in France and in the Percheron district carefully selecting the kind of young studs and mares they wished to import. They bought only the best and now offer for sale only the best specimens of the breed. J. A. Fee is one of the old settlers in Stafford county, having lived there about thirty years. He is one of the best known men in the county and it can well be said that J. A. Fee & Son have placed Stafford county on the map for the home of the Imported Percheron horse. They have a large farm and will raise a large number each year, but they are now offering 10 imported stallions and 10 imported mares. The mares are all nicely broke to work and are most all safe in foal for spring colts. The stallions are all blacks and range in age from two to four years old. We will make special mention of a few of the young stallions. One extra good two-year-old black imported colt, weighing a little over 1,700 pounds, good bone and lots of style and action. We noticed in another two-year-old colt a very low down blocky built colt that tips the scales at 1,650, one of the wide as a wagon kind. In a black three-year-old imported colt that weighs 1,850 we found an extra good specimen of a draft horse with a clean bone and smooth as a ribbon. In fact, there are 10 young imported stallions in this herd that could not be duplicated in the United States and it would require a great deal of time and the expenditure of a large sum of money to find their equal in France. If you are looking for a high class young imported stallion or an extra good pair of mares you can make no mistake in writing or seeing the stud of J. A. Fee & Son at Stafford, Kan. Kindly mention Kansas Farmer when you write.

Mrs. T. I. Wooddall, of Fall River, Kan., is advertising Brown Leghorn eggs for sale from very high scorers; pens. These are priced reasonable. Look up ad on poultry page of this issue. Mention Kansas Farmer when you write.

AUCTIONEERS

L. E. FIFE,

LIVE STOCK AUCTIONEER,
Newton, Kansas.

Breeder of Percherons, Shorthorns and Duroc Jersey hogs; posted in pedigrees; terms reasonable. Write or wire for date.

THOMAS DARCEY

Live Stock and Real Estate Auctioneer. Fifteen years' experience. Breeder of Poland China hogs. Well posted in pedigrees. Dealer in real estate. Terms reasonable. Wire or write for dates. Long distance phone 2615, OFFERLE, KAN.

COL. JOHN D. SNYDER

LIVE STOCK AUCTIONEER.
Sales made everywhere. Write or wire me for dates. Prices reasonable.
WINFIELD, KANSAS.

W. C. CURPHEY,

LIVE STOCK AUCTIONEER.
Write, phone or wire me for dates.
Abilene, Kansas.

COL. ESSIE CRAVEN

NORTH BRANCH, KAN.
Twenty Years Selling All Breeds.

LIVE AND LET LIVE

is my motto. Reasonable charges and good service. Choice of dates if you write early.

JAS. T. McCULLOCH

CLAY CENTER, KANSAS.

R. L. HARRIMAN

AUCTIONEER
PEDIGREED LIVE STOCK

Write me for dates.
BUNCETON, MO.

J. H. MOORMAN.

Live Stock and General Farm Sale Auctioneer. Satisfaction guaranteed. Long distance phone connection.

SOLOMON, KANSAS

RED POLLED CATTLE

AULD RED POLLS.

Herd established 7 years. Choice breeding and individuality. Three young bulls for sale.

AULD BROS.,

Frankfort, Kansas.

SHORTHORN CATTLE

SHORTHORNS.

If you need a young bull or some females write us; prices right.

SHAW BROS.,

Phillips Co., Glade, Kan.

SHORTHORNS AND POLAND CHINAS.

The pure Scotch bull Scottish Archer in service. Polands headed by the line bred Expansion boar Bell Expand. Nothing for sale at present. Visitors welcome. S. B. Amcoats, Clay Center, Kan.

TENNEHOLM SHORTHORNS.

Have on hand a few young red bulls ready for service that are of splendid milking dams and have good beef form. No better breeding could be wished. Can spare a few females. Prices moderate.

E. S. MYERS

Chanute, Kan.

ALFALFA LEAF SHORTHORNS.

Special offering of four bulls. One by Archer 205740, out of a Victoria cow. Three by Nonpareil Star, one a Victoria, one imp. Eldest and one Christmas Gift. Also a few choice heifers of equal quality and breeding.

JOHN REGIER, Whitewater, Kan.

EVERGREEN HOME FARM.

Milking Shorthorn Cattle. Bred Hornless, Berkshire Hogs, Oxford Down Sheep, Bourbon Red Turkeys.

LATHROP,

MISSOURI.

SCOTCH TOPPED BULLS.

We have for sale some choice last spring bull calves sired by our herd bull Pleasant Hill Master, one of the best sons of Master of the Grove. Will make reasonable prices on these.

O. A. TILLER, Pawnee, Neb.

Humboldt National Stock Farm.

Shorthorn cattle, large type Poland China hogs, 10 spring boars priced right. Write me your wants. I meet parties at trains. We can do business. Come and see me. **H. F. Pelphrey & Son**, Humboldt, Kan.

A CARLOAD SHORTHORN COWS

All are bred or have calf at side, 4 good young bulls that I am sure will suit. Everything nicely bred and in good condition. Moderate prices. Come and see us.

D. H. FORBES & SONS, Topeka, Kan.
R. F. D. No. 3, Bell Phone 31.

JEWELL 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 \$1135. Farm adjoins town. Come and see us.
W. T. LOWE, Jewell, Kan.

Prospect Farm Shorthorns

The oldest Shorthorn breeder 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, Kan.

If you are looking for a young
Shorthorn Bull

to head your herd, right in every way write us for full particulars at once.
C. G. COCHRAN & SONS
Plainville, Kansas.

Center Grove Stock Farm

Scotch Shorthorn cattle and 20 bred sows and a few good spring boars of large type Poland China hogs. Write me what you want. No trouble to answer letters. Bell phone.

J. W. Pelphrey & Son, R. 6, Chanute, Kan.

HEREFORD CATTLE**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.

JERSEY CATTLE**LINSCOTT JERSEYS**

Offers a few choice cows in milk and some bred heifers. Milk and butter records accurately kept.

R. J. LINSCOTT, Holton, Kansas.

DUROC JERSEYS**POLLED DURHAM CATTLE****POLLED DURHAMS.**

Young bulls, cows and heifers bred to Roan Hero, the double Standard champion. Prices reasonable. Write for terms.
C. J. WOODS, Chiles, Kan.

BELVEDERE X2712--195058

Son of the \$1500 Grand Victor X1635 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, Kan.

ANGUS CATTLE**25-BULLS ANGUS -25**

Ready for Service.

30-BRED COWS AND HEIFERS—30
Sired by or bred to Champion Ito, sire of 1st Prize Calf Herd at American Royal.
10-SHROPSHIRE EWES IN LAMB—10
To our Imported Show Ram.

SUTTON FARMS, LAWRENCE, KAN.
400 Angus in Herd.

VIEW POINT ANGUS HERD.

15 choice cows in age from 3 to 7 years. Representative of the Heroine, Mina, Duchess and Dimple families. All of them raised calves the past season and are bred for March calves by the great Louis of Meadow Brook, sire of champions. Nearly all of these cows were raised on our farms and are only being sold to reduce the size of herd. Low prices. Mention this paper when writing.

PAUL M. CULVER, Edgerton, Mo.

HOLSTEIN CATTLE**East Side Dairy Holsteins**

Advanced Registry Breeding.

My prices are reasonable for cows and heifers bred and open if you consider quality and breeding, a choice lot to choose from. Also some extra well bred young serviceable bulls and bull calves to offer. See the herd or write for particulars.

F. J. Searle, Prop., Oskaloosa, Kan.

ROCK BROOK HERD OF REGISTERED HOLSTEIN & FRIESIAN CATTLE.

Special offer for next 30 days in bull calves from 1 month to a year old. A few high class registered cows and heifers, and can also offer a few very high-grade cows and heifers, consigned to me to be sold by parties wishing to secure pure-breds. 100 head in herd. Address

HENRY C. GLISSMANN, Sta. B, Omaha, Neb.

DUROC JERSEYS**BARGAINS IN DUROCS.**

Big, growthy, spring boars for sale at bargain prices. Bred right and fed right. Priced right.

E. M. MYERS,

BURE OAK, KAN.

HOWE'S DUROCS.

Special prices on boars and gilts sired by Rex K, champion at Wichita fair this year. Also a few by Perfect Improver, grand champion at Wichita 1907 and 1908. Only a few left. Get busy and send in your order.

J. U. HOWE, Wichita, Kan.

GREENWOOD HERD DUROC JERSEYS.

Herd boar Dandy Duke 64663, few choice spring boars for sale and few extra good spring and fall gilts, few tried sows bred for spring litters. Write or come and see me.

R. D. Martin & Sons, Eureka, Kan.

FOR SALE.

A few late spring and summer boars of good quality, also some good bred yearling sows and spring gilts priced right.

H. A. J. COPPINS,

Potwin, Kansas.

"DUROCS GROWN IN THE OZARKS."

Ohio Chief and Col. blood. Litters by Muncie Chief, Model Prince, King of Models, Inventor, The King I Am, Advance; several by Col. Carter, my leading bred boar. They are all grown right, are good and we answer all letters of inquiry.

C. I. CARTEER, Albany, Mo.

DUROC JERSEY BRED SOWS

Extra good ones sired by King of Cols. 2nd, G. C.'s Col. and other good boars. Bred to G. C.'s Kansas Col., Col. C. and Red Special.

CHAPIN & NORDSTROM,

Green, Clay Co., Kansas.

20 - BRED GILTS - 20

Daughters of King of Cols. II and G. C.'s Col. These are very choice gilts priced to sell. Also a few choice boars of summer farrow.

FRANK ELDER,

Green, Kansas.

Fourth National Corn Exposition.
The fourth National Corn Exposition will be held at Columbus, Ohio, on Jan. 30 to Feb. 11, 1911, at the State Fair grounds. Six or seven of the great buildings of the Ohio State Fair will be used for the display as it has been found that there is a general demand for a great national show of agricultural products and the National Corn Show will hereafter include all grains, grasses and other farm products. Remember the time and begin to get ready to take some of these prizes. Geo. H. Stevenson, Columbus, O., is the secretary.

Red Cedar Trees.

Editor Kansas Farmer:—When is the proper time to put out red cedar trees, from 2 to 4 feet high? They are in nursery rows and have been transplanted once.—C. L. Brown, Beloit, Kan.

While many prefer to plant evergreens of all sorts in the fall or winter, this work may be done successfully at this season of the year if proper care is had and the transplanting done before the spring growth is too well started. In my own practice I am careful to see that the roots are not unnecessarily disturbed and that the trees are planted in ground which has been prepared for them before hand. If the dirt shatters off from the roots I think it would be well to wet them thoroughly, then stand the young tree in place and sprinkle fine black earth between them and compress it about the roots.

If It Only Did.

"If one stool from one seed of grain produces an average of 100 grains, why does not one bushel of seed produce 100 bushels? This question is asked and answered by the author of a very interesting little volume entitled "More Grain from Less Seed." The writer makes a present-day practical application of the "Parable of the Sower," showing how good grain on "good ground" properly planted should produce "some one hundred fold, some sixty fold, some thirty fold." The book is distributed free by the publisher, J. S. Howell Mfg. Co., 153 Howell St., Beaver Dam, Wis., and any grower of small grain can secure a copy by simply writing a request on a postal card, stating the number of acres and varieties of small grain he grows, to the publishers, at the above address. With the book will be mailed, also free, a complete catalog describing nearly 200 styles and sizes of Tiger Drills and Seeders, for fifty years the leading machines of the country for small grain seeding.

The Glen Echo Shorthorn Dispersion.

At Sedalia, Mo., on Tuesday, March 29, C. W. Daugherty will disperse his very choice herd of 35 head of Shorthorn cattle. More than half of these are fashionably bred Scotch animals and the herd is headed by Secret Goods 292933 who has made a record as a great show and breeding bull. The other herd bull is young Guiding Star, who is also of very high quality and fine Scotch breeding. Both bulls are descended from Choice Goods. Many of these animals are from the wonderful herd of Harriman Brothers, Eunceton, Mo., while others are from such herds as those owned by Thomas Jamison & Mitchell, Allen, Kan.; Fred Case, Harrisonville, Mo.; H. R. Clay, Plattsburg, Mo.; J. J. Littrell & Sons, Clark, Mo. Mr. Daugherty has sold his Glen Echo farm, and is compelled to disperse his choice herd. Every animal is guaranteed a producer and several have cost as high as \$500 each and have proved to be worth the money. Ten of the cows are with calves at foot by Secret Goods. If you should not happen to want one of these very select young bulls you can find something valuable for your herd in the female offering, members of which have the same blood lines. You not only have a chance to get Choice Goods stuff in this sale but other high class cattle as well.

Miniature Storm Interests Thousands.

A real thunderstorm and actual crashes of lightning while you wait and not a particle of danger! That is what the unique invention of W. C. Shinn, "Conqueror of Lightning," accomplishes and today is doing to the delight of thousands of farmers at the places of business of hundreds of dealers in the famous Shinn Heavy, Pure Copper Cable Lightning Rods throughout the United States. The purpose of the machine itself is to bring home to the practical farmer the knowledge that a single lightning bolt may wipe out his life work and that the heavy, pure copper cable rod, such as that which Mr. Shinn himself manufactures, is the only absolute, dependable protection against the loss of home and buildings. The machine shows, when in action, just how and why lightning strikes and it also demonstrates the reasons why Shinn rods are absolute protection. The rod shows 32 strands and 3 cable strength. The entire cable is made of copper, 99.86 per cent pure. Thousands of farmers have expressed in personal letters to Mr. Shinn their whole-hearted satisfaction at the simple, effective truths in his '910 edition of the book, "Lightning and How to Control It." The book is being sent to farmers everywhere for the asking, a letter to Mr. Shinn, Lincoln, Neb., being all that is necessary to secure the book.

The Laws of Lightning.

Astonishing as it is that there should be any question about the value of a good lightning conductor in these Twentieth Century times, it is not unusual to hear apparently well educated people scoff at the idea of lightning stroke being preventable. Now there are all kinds of lightning conductors. Some are worse than useless. On the other hand there is one make so perfect that many thousands are in use all the way from New England to Old Mexico, and not one has ever failed to protect. This successful conductor is made of pure soft copper cable and is always installed with great care by practical experts. Proper installation is vitally important. Seemingly trivial matters, like failure to connect up a nearby pipe or the telephone wire, often result in extensive damage. The expert knows the laws of lightning thoroughly and therefore avoids pit falls which bring disaster when untrained men do the work. If your buildings are now unprotected you can comprehend what a terrible risk you run by investigating the statistics of many fire insurance companies. They prove that 75 per cent of rural fire losses are caused by lightning. Nor does this insatiable power stop here, but takes its fearful toll of human lives as well, killing annually, it is said, more than all the railroads of the country. A very comprehensive book on "The Laws of Lightning" has been compiled by the National Cable & Manufacturing Company, 53 Cable Street, Niles, Mich. You will find it worth reading and if you describe your property, they will tell you what a guaranteed National Cable will cost, and if you install it you can breathe easy whenever the next bad storm comes.

POLAND CHINAS**POLAND CHINAS.**

20 early spring Poland China gilts, tracing to the large type Expansion—will sell them bred or open, a few choice spring boars, prices reasonable; satisfaction guaranteed.

Oliver & Sons, Danville, Kan.

MELBOURNE HERD POLAND CHINAS.

I have a few choice spring boars and gilts sired by Gold Metal, Hadley Boy and Klever Boy for sale at moderate prices. Let me know your wants.

John C. Halderman, Burchard, Neb.

POLANDS! POLANDS! POLANDS!

Capt. Hutch, Moguls Monarch and Toulon Prince in service. Big type clear through. 4 young boars for quick sale. 2 July boars that are herd boar prospects.

J. H. HARTER,

Westmoreland, Kansas.

EXPANSION POLAND CHINAS.

A choice lot of Expansion bred fall pigs, both sexes, September farrow, for sale. Nice, thrifty pigs and will be sold worth the money. Mostly Expansion blood, though I have other good ones for those who want them. Get your orders in early.

W. E. Willey, Steele City, Kan.

STRYKER BROS.' HERD POLAND CHINAS.

The greatest show and breeding herd in the West. Write your wants and they will please you. Hogs any age at reasonable prices. Buy the best and make the most. They breed the kind that win, the kind you want. Address

Stryker Bros., Fredonia, Kan.

10 SPRING POLAND BOARS 10

Big, husky fellows, sired by Orphan Chief Jr. and Hutch Jr. out of strictly big type sows; low prices.

J. F. Menahan, Burchard, Neb.

FOR SALE

Three boars, May farrow, show prospects of a high class. See these if in need of a junior yearling next fall.

JEWELL BROS.,

Humboldt, Kansas.

SNYDER BROS.' HIGH CLASS POLAND CHINAS.

Either sex, bred sows and bred gilts, priced right for quick sale. Write your wants.

Snyder Bros., Winfield, Kan.

HIGHVIEW BREEDING FARM

Devoted to the raising of Big Boned Spotted Polands. The Farmers' Kind. The Prolific Kind. I am now booking orders for spring pigs to be shipped when weaned in pairs or trios—no kin.

H. L. FAULKNER,

Box K, Jamesport, Mo.

BERKSHIRES**RIDGEVIEW BERKSHIRES.**

2 herd boars for sale. 1 two-year-old by Forest King, other males of different ages. Sows and gilts open.

Manwaring Bros., Lawrence, Kan.

MAPLE HEIGHTS BERKSHIRES.

A few extra good, early fall gilts to offer, also several fall boar pigs. Long, smooth bodies and fancy heads. Write your wants.

J. M. Nielson, Marysville, Kan.

SUTTON BERKSHIRES

were champions at the American Royal and International Shows. 30 bred gilts, 150 and 350 lbs., sired by or bred to our wonderful sire, Berryton Duke Jr. or Star Duke 4th, junior champion at International Show. Guaranteed strictly choice with short heads, size and quality. Also 10 fancy boars, 125 to 300 lbs.

500 Head in Herd.

Sutton Farms, Lawrence, Kan.

THE STRAY LIST

Woodson County—John E. Barrett, Clerk. Taken up, on Oct. 29, 1909, by W. M. Hays, Everett tp., Woodson Co., one white face red steer. H on right hip. Value \$15.

Woodson County—John E. Barrett, Clerk. HEIFER—Taken up March 10, 1910, by Geo. Ibbetson, Eminence, 1 light red heifer, one year old, value \$16.

Greenwood Co.—W. O. Blackburn, Clerk. HEIFER—Taken up, by W. O. Smith, in Janesville tp., 1 heifer, red with white face, under bit in both ears, value \$20.

Osage County—Geo. E. McGrath, Clerk. TAKEN UP—By Charles Leonard, in Junction tp., 1 bay horse, 5 feet tall, star in forehead and white left hind foot, value \$50; 1 dark gray horse, star in forehead, value \$50.

Coffey County—Geo. Throckmorton, Clerk. STEER—Taken up, Nov. 1, 1909, by D. W. Olney, Waverly Kan., one steer, light red with white spots, dehorned, 2 years old. Valued at \$35.

Editor Kansas Farmer—"I am selling lots of horses in Kansas in 1910. Business is better than ever for fairs."—Frank Iams, St. Paul, Neb.

Get in on the BIG Sale

100,000 Rolls of Choicest, High Quality, Flint Coated
Gordon-Van Tine Roofing Absolutely Butchered—

Going! Going! Going!

at Such LOW PRICES as May Never Again be Known in the Roofing Business!



Trainloads Are Going Out Every Hour of the Day Containing Orders from a Single Roll to a Carload!

The most stupendous Roofing Sale in history is now under full headway. Thousands upon thousands of Gordon-Van Tine Preferred Quality, Flint-Coated Roofing—the highest grade of Roofing in the world—are being thrown on the market at price reductions that mean a tremendous sacrifice of profits. Every roll is guaranteed, and our guaranty is backed by \$250,000.00.

We bought big quantities of raw material at a saving of thousands of dollars, and can thus "clean house" at AWAY BELOW PRESENT PRICES and still come out even. That's all we expect. You get the benefit.

Immediate Shipment Guaranteed if You Order from this Ad 48 hours from the time your order is received the goods will go out from the nearest warehouse to you. If you are not quite ready to receive the Roofing we can accept this, for every inch of space will be needed by then. The Editor of this paper will tell you that you are perfectly safe in sending money this way. If we are sold out when your order comes we will return the money by next mail.

We Sell by Mail Only We pay no dealer's profits, rents and losses. We pay no salesmen. Our army of customers send their orders direct to us! Our low prices and our guaranteed qualities are the magnet! Our friends keep the savings in their own pockets! Our quick delivery warehouses in six cities are jammed with bright, fresh, flawless, flint-coated Roofing. The Surplus Stock is being shipped out in trainloads. You need Roofing NOW—you get a Wonderful Bargain NOW. You want the best—you want the saving. You want the Gordon-Van Tine Guarantee.

Order Now and Make Big Money!

You can't make money easier than to buy Roofing during this Sale. Even if you order more than you need you can sell any that is left over at a good profit, right among your neighbors! With Gordon-Van Tine Roofing you can put a Roof on any Building at one-third the cost of a shingle roof!

You will find our Guaranteed Roofing on the great Sheep Barns of Western Ranches—on the mammoth Barns and Sheds of the big Cattle Ranches—on the fine Barns of the Dairy Districts—on the Houses, Barns, Tool Houses, Hog Houses, Poultry Houses and other Out-Buildings of the general Farmer.

This Is a Quick-Action Proposition!

At the prices we are now making it is unquestionably the most remarkable Value ever offered to the Buyer of Ready Roofing. The 100,000 Rolls of Surplus Stock will soon be gone. Don't fail to take advantage of the Great Warehouse Clearance Sale!

Grand FREE Millwork Catalog!

We sell Millions of Dollars' Worth of Roofing and Building Material by Mail. Direct to Users in every State. Every Article Guaranteed for Quality, Safe Delivery and Satisfaction by the Biggest Roofing and Millwork Plant in the World, with a Paid-up Capital of \$250,000.00. The prices on the 6,000 Millwork Bargains Listed in our Great Catalog will astonish you. Stop paying Double Prices to Middlemen! Save 50 per cent of your Money and get Guaranteed Quality by dealing Direct with us.

Thousands of orders will quickly clean up our Stock—then you must pay Full Prices!

Attach money to this order and mail it in

QUICK!

You may lose Big Money if you wait.



We Guarantee every roll of Gordon-Van Tine Roofing for a definite period of years. The Roofing is made of Long-Fibre Wool Felt, Waterproofed with Pure, Natural Asphalt and Surfaced with Flint and Mica. Color is slate gray.

Money Cannot Buy Better Roofing!

Our Guaranteed Roofing protects a roof from damage by Sparks and Cinders. It makes an Absolutely Leak-Proof Roof. It is not injured by extremes of Heat or Cold. It is twice as Durable as any other Prepared Roofing on the market. It is easy to lay. No tools but a hammer. Instruction Sheet showing how to apply Free, in Every Roll of Roofing.



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BUILDING PAPER 500 square feet, price 37c
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Over 100,000 Rolls of Roofing—Inspected, Packed and Sealed for Shipment. Nails and Cement Inside

Any Banker in America will tell you we are absolutely responsible. We refer you to the Editor of this paper.

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Please enter my order for the following Roofing, to be shipped from nearest warehouse:

Rolls of 1-Ply Roofing at \$1.25 each. I enclose \$
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