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KANSAS FARMER.

Established in 1863.

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116 West Sixth Ave., Topeka, Kans.

Table of Contents

Alfalfa suprious substitute for	583
Alfalfa, baling	574
American Forestry Association	582
Amusements	574
Anderson County reports	574
Apple day, for a national	575
Auctioneers, annual meeting Kansas	582
Bees at the well	581
Boy's room, unique decorative furnishing for a	580
Bromus inermis for a permanent pasture	574
Copperas or vitriol as a weed-killer	575
Dairy barn	585
Dairy cows, experimenting with	584
Doughnut tree, the	579
Edgerton Grange	588
Eggs, preserving	587
Egg-rolling, the	579
Farm notes	588
Fat in cream, per cent of	585
Foul-brood law, Kansas	581
Good Roads Association, the national	582
Grasses and crops for Morris County	573
Grasses for wild sod	574
Hog-yards at the Kansas Experiment Station	576
Japanese victory, a great	571
Joan of Arc	581
Kerosene emulsion for plumb-leaf aphids	575
Laying contest, Kansas State	586
Maid of Orleans, the	579
Milk for pigs, sweet or sour	587
Milk production, causes of variation in	585
Name, a good	580
Old Dinah's cure (poem)	579
Old friends (poem)	580
Peach sport, a	574
Poultry notes	587
Rakes, side-delivery	574
Road overseers and the new law	583
Roots of plants, the	572
Soldiers, honor to the citizen	571
Stallion, lien for service of	576
Strawberries for the table and for preserving, some hints on	580
Sunday-school lesson	581
Veterinary department, the	578
Wheat, new hard	574

Within the last week the editor has seen in operation the oil-burning stove at the Midland Foundry. A very small feed of Kansas crude oil made a very hot fire. The designer, Mr. Curry, was studying the operation of the burner with great care. He will make some

slight modifications in the burner with a view of securing a still more perfect combustion. A little smoke came from the chimney, indicating incomplete oxidation. The burner was a success as we saw it. When brought to such perfection as to satisfy the exactions of Mr. Curry, it will be manufactured in quantities and placed on the market.

We have received, through the courtesy of the "American Thresherman," of Madison, Wis., a copy of an alleged funny book, entitled "The Musings of Uncle Silas." In a somewhat extended examination of the book, the editor was unable to detect any tendency to produce a smile. Several friends were invited to sample the offering and discover any lurking fun, wit, or humor that might be concealed therein. Their search was without results. This notice is written because of a very nice letter from the publisher of the book asking that the editor "send either a marked copy or clipping containing your comments, whether good or bad, as we desire to keep a complete file of the same."

A GREAT JAPANESE VICTORY.

A naval battle, beginning July 27, was fought at the southern entrance to the Sea of Japan between the Russians and the Japanese. At the time of going to press—noon May 30—it is not known whether or not the action has come to an end. Official reports of Admiral Togo show that the Japs have sunk twenty-two and captured six Russian war vessels. Two of these are battleships costing \$5,000,000 to \$7,000,000 each, and requiring years to build. The Japanese loss reported is trifling. The victory is probably the greatest in the history of naval warfare. Russia's sea power is crushed.

With their usual alertness, the Japs made use of the latest developments of science. The wireless telegraph enabled Togo to concentrate his fighting craft at the right point at the opportune time on information telegraphed from his scout boats. His terrific onset with torpedo boats, submarine boats, floating mines and the rain of 12-inch and other large shot from his battleships in the distance seems to have bewildered the Russians, who had apparently supposed they had outwitted the able old Jap admiral, and believed that they were passing the danger point unobserved.

The captured vessels will be useful in the Japanese navy.

The end of the war ought to be reached very soon.

HONOR TO THE CITIZEN SOLDIERS.

The world is just now awarding to the Japanese fighting men unmeasured praise for the valor with which they are defending their country against the preliminary encroachment designed to lead to final destruction of their existence as a Nation. This praise is well deserved.

On Tuesday of this week, patriotic America expressed its admiration and gratitude towards the fighting men of this country who, in the sixties, saved

our Nation from disruption and such other calamities as might have followed.

The decoration of the graves of soldiers who, with a noble impulse, fought in a noble cause, helps to create and maintain the spirit of patriotism without which no people can be lastingly great.

The old soldiers who saved our country for us, and, returning, set examples of good citizenship, are worthy of the honors bestowed. In placing flowers upon their graves their descendants and beneficiaries incite the Nation to admire their self sacrifice and to emulate their appreciation of peace.

AMUSEMENTS.

With the presence of the circus season and the approach of the National birthday, serious people are compelled to give at least passing attention to the demand of all juveniles and a good many others for amusement. The KANSAS FARMER, whose Quaker-bred editor has passed the three-score mile stone, may be regarded as a bit heterodox by the above-mentioned serious people. The question of the "Utility of Amusement" has not been made the theme of any sermon or other weighty discourse.

Upon the occasion of two circus days in Topeka during the last few weeks, the editor has taken occasion to mingle with the crowds that waited patiently along the sidewalks for the coming of the parade. The boys of the street were there discussing the number of elephants "in this here show," and comparing them with what they had seen on other occasions. And "them clowns" were fully discussed. The size, color and number of the horses, the length of the parade, the sound of the callopo, the appearance of the lady riders, the cages of animals—all features of the parade were fully canvassed. The girls, too, especially those who chew gum and squeeze through the crowds two and two and who giggle upon every occasion, were there. If the parade were witnessed by these youngsters only, these who are too much in evidence on the streets of every town on all occasions, it were, perhaps, as well if the parade were discontinued. But, the tired mother with the baby in the pushcart and with two to five others hanging to her skirts, was there and she looked less weary after the parade had passed than when she came, two hours before. The kitchen girl was there, the stenographer, the saleslady and the comfortable-looking matron, proud of her boys and girls, and pleased at their attention to her enjoyment. Whole families of shop people, of farmers, of office people, people in the varied walks of life were there, a good-natured, pleased, decorous, intelligent crowd of average American citizens. They all enjoyed the passing parade, and a look into their faces left little room for question of the advantages of the two hours' outing, especially to those who see the least of outdoors.

Perhaps the reader is now prepared for an unconditional endorsement of the Fourth of July with all of its racket and danger. The Fourth of July

is one of inalienable rights of the small boy which he will not give up without a protest. General Sherman doubtless spoke with extreme accuracy when in 1861 he said "War is hell." For almost 129 years this country has indulged in an annual reminder of war. Some reflective people call to mind the fact that through all the dim ages of the past and until comparatively recent times the chief occupation of man was war and that the spirit of hellishness is but slowly eliminated, and finds expression in the performances which the boy delights to call celebrating the Declaration of Independence. Inherited tendencies are indeed hard to eliminate. The writer once heard a biologist say that the most powerful microscope could define no difference between the appearance of the germ of matter which should become an elephant and the germ which should become a man, but that there were behind these respective germs thousands of generations which compelled the one germ to differentiate from the other, on development, so that one should become an elephant and the other a man. Doubtless man is held by his hereditary characteristics to some of the impulses which necessarily controlled in the past and which he will be the better, at some time in the future, for having reformed. But, even if it were well for the elephant that he use his front feet instead of the end of his nose in passing his food to his mouth, the elephant, obedient to his inherited limitations, will, for untold generations in the future, continue the practice of picking up things with his nose, absurd as such practice would be for a man.

Reformers who would cut off the small boy from every indulgence of the semblance of his inherent tendency for war, may be undertaking the impossible.

There are students of humanity and its ills who state that every action of every organ of the body is actuated by some nerve force emanating from the brain. This nerve force propels the hand to write, to shake hands with a friend, to strike an enemy, as directed by the mind. This nerve force excites the digestive organs to action, the circulatory organs to propel the blood throughout the body, the respiratory organs to the complicated action called breathing. How the nerve force acts upon the tissues of the body is little known, but that it is, in many instances at least, subject to the mind, is certain. That pleasure induces healthful tendencies is common observation. It is well known that the great diversion of the people of Kentucky is the racing. An observation reported by the physicians of Louisville is that there is diminution of sickness at times of the races. One doctor goes so far as to say that "At Christmas and other times of the year when there is any special celebration on, people do not consult physicians about their ailments. * * * Excitement at the races, at Christmas time, or at any other time, in individual cases, tends to keep down a great deal of sickness. This is an established fact among the physicians of the world." Other doctors are reported in this connection.

(Continued on page 582)

Agriculture

The Roots of Plants.

EXCERPTS FROM BULLETIN NO. 127, KANSAS EXPERIMENT STATION, BY PROF. A. M. TENNEYCK.

WHEAT ROOTS.

A sample of wheat roots, variety, red winter, was taken July 7, at maturity. The wheat was planted October 11, 1902, with a disk-drill. The grain was a little overripe when the sample was taken, and the roots seemed brittle and were broken off easily

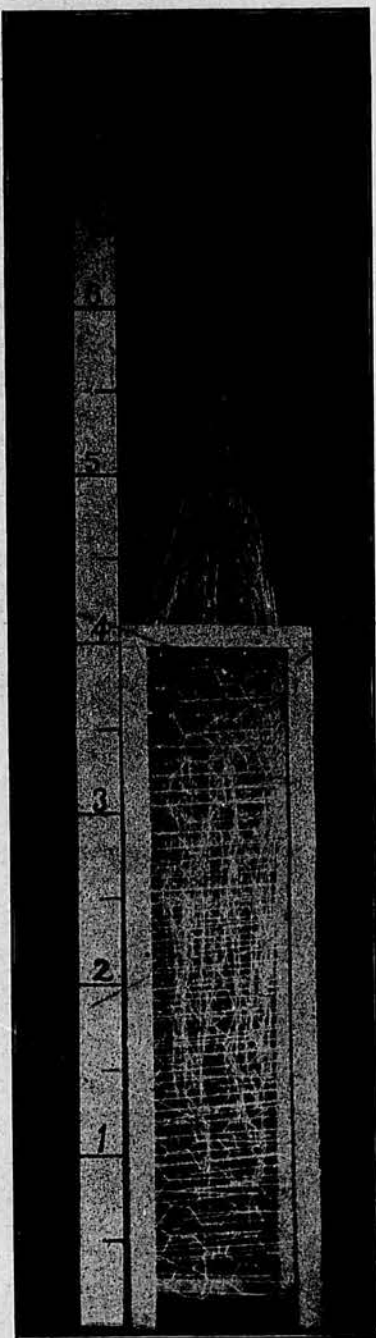


Plate 9. Wheat roots.

in washing them out; also, the subsoil was a stiff, heavy clay, very compact, and resisting washing, so that a poor sample was secured. No photograph was made, but the sample, together with the field-notes, afforded opportunity for a careful study of the root system. The first foot of soil, which was fairly mellow and fertile, was filled with a fine network of roots, the main roots being caught on the wire rods two and one-half inches from the surface. It was observed that the fine, fibrous roots extended to the very surface of the ground, so that some were caught in the plaster-of-Paris cast, but, being very tender, they were broken by the force of the water. Below the fibrous growth in the first foot of soil, slender roots extended directly downward, many reaching the depth of fully four feet, in the hard subsoil. These roots did not seem to branch much, and it was estimated that the absorbing surface of the roots was greater in the first foot of soil than in all the lower soil.

The main roots spring from the lower part of the root stem in whorls, consisting usually of not more than four roots. The roots of the upper whorls were coarser than the others, resembling somewhat the brace roots of corn, and, perhaps, serving a similar purpose.

Plate 9 shows the root system of a sample of spring wheat which the author prepared when connected with the North Dakota Experiment Station. Although this wheat grew in a different soil and climate, the root system is quite similar to that described above, and will serve to illustrate the root growth of this crop.

OAT ROOTS.

In plate 11 is shown a sample of oat roots taken July 11, when nearly mature, 103 days after planting. The variety is Minnesota No. 202, a medium late maturing sort, which did not prove to be a good producer in 1903, being damaged by hot weather. This sample made a good growth of straw, but the heads were light. The oats were planted with the single-disk grain-drill, in drills eight inches apart. A cross-section of two drill rows is shown in the figure.

The root system is similar to that of wheat, but the roots are slightly coarser and more numerous and the fibrous growth extends deeper than described for wheat. Several of the main roots were washed out to the depth of four and one-half feet, and a few extended even deeper, but were broken off at the depth named. The larger side roots interlace between the drill rows within two inches of the surface, and the soil above the main roots was filled with a fibrous growth, as observed in the description of wheat roots.

The roots start out from the root-stem in whorls, as described for wheat, and the crowns lie very near the surface. Extending down from the center of the root-crown of each plant in this sample was observed a short rudimentary root-stem which ended abruptly with a slight enlargement from which radiated a few short, fine, wire-like roots. Often the old seed coat was found clinging to the enlarged terminus. The depth at which the seed was planted determined the length of the lower root-stem. The explanation of this rudimentary growth is that the seed was planted

too deep, or below the point at which the soil conditions were most favorable for starting the young roots; hence, the root-crown formed considerably above the seed, the lower root-stem remaining rudimentary and the little rootlets which started from it ceasing to grow early in the season. The fact that the root-crowns will form at a certain depth, depending upon the soil and season, no matter how deep the seed is planted, provided it is not planted so deep but that the young shoot may reach the surface, has been shown by previous experiments. When seed is planted in furrows, however, as observed in the listed corn, it is possible to cause the root-crown to develop deeper in the soil, since the furrowed condition lowers the apparent soil surface, allowing the roots to develop under fairly normal conditions; then as the soil becomes warmer and the furrow is gradually filled, the normal conditions remain and the plant thrives on its original root system, whereas, with surface planting, as the season advances and the hot weather comes, the roots may lie too near the surface to have the best conditions and environment, and the crop is more apt to be injured by heat and drought than the lister-planted crop.

ORCHARD-GRASS ROOTS.

The sample of orchard-grass roots shown in plate 12 was washed out of the soil June 27, 1903, being the first sample prepared in this way at this station. The soil washed well, the deeper subsoil being quite sandy and inclined to cave. The roots were not easily broken and were preserved in good condition. This was a fine sample of grass, measuring nearly three and one-half feet in height, with a thick leafy undergrowth. The heads were turning brown and beginning to ripen when the sample was taken. The age of the grass is not definitely known, but this is either the second or third year since seeding.

In this sample the extreme depth of the roots is practically the same as

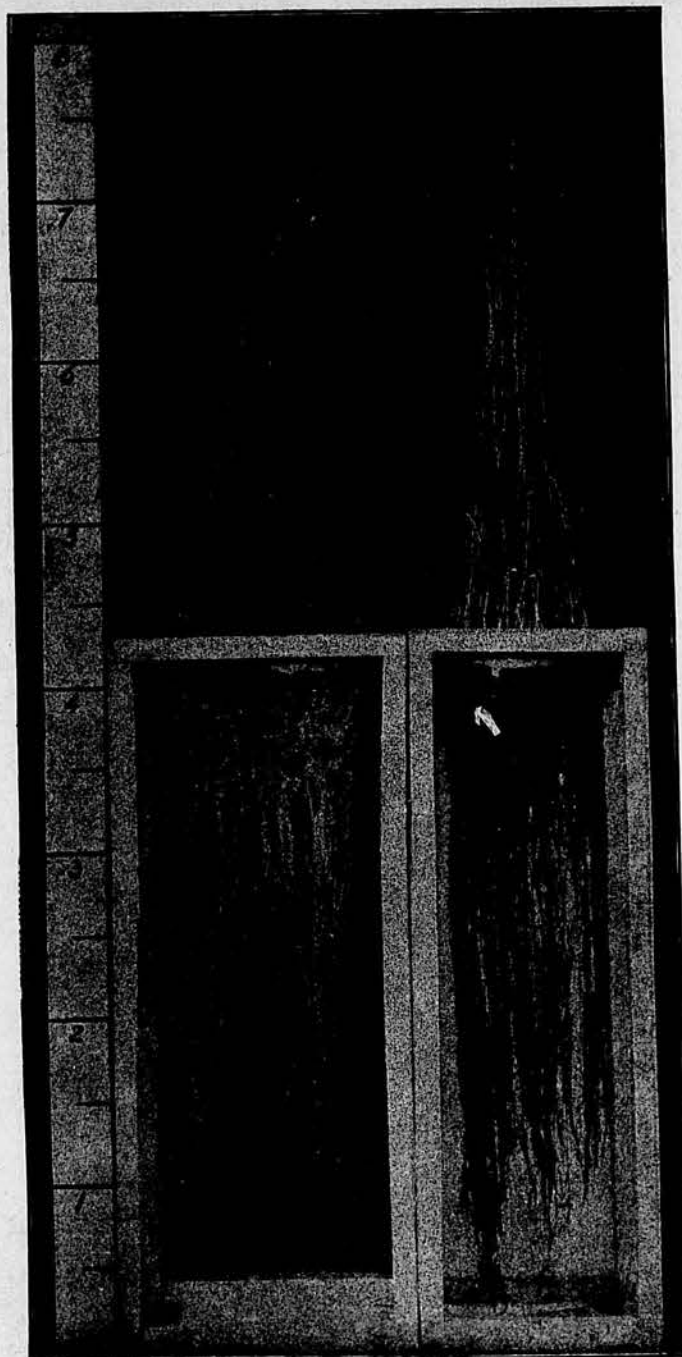


Plate 12. Orchard-grass roots. Bromus inermis roots.

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the extreme height of the grass. The first six inches of soil was filled with a thick, fibrous mass of roots, so dense that it was hardly possible to wash out all the soil. Below ten inches in depth the roots rapidly became thinner. The largest part of the root growth lies within twelve inches of the surface. The root system resembles that of the annual grasses, wheats, oats, and barley, but with a greater fibrous growth in the upper soil. The roots are tough and woody, and nearly white in color. Orchard-grass grows in tufts or bunches, and does not form a perfect sod. The sample shows the root development from one large bunch or stool, and could hardly be taken as representing the sod of an orchard-grass meadow.

BROMUS INERMIS ROOTS.

The Bromus inermis roots shown in plate 12 were taken from a three-year-old meadow. The texture of the soil in this field is similar to that described for orchard-grass, but at the depth of four feet and three inches the fine earth rested on solid limestone rock, and the lower subsoil contained some gravel and small pieces of rock. The grass roots penetrated fully to the rocky floor and made some fibrous growth upon it. This is not shown in the figure, because the sample was injured and some of the roots were broken off before the photograph was taken. The larger portion of the roots reached the rocks surface, and when the sample was first taken the whole cage was filled with a thick growth of roots. Bromo-grass makes a very thick sod. In this sample the roots form a dense growth to the depth of ten or twelve inches, where they thin out a little and take nearly parallel courses downward, but are still so numerous in the sample as to form a thick veil through which the light can scarcely penetrate. The roots are rather coarser than those of the orchard-grass and have a dark, brown color. Some lighter colored roots were observed. Apparently these were younger roots, and the color becomes darker as the roots grow older.

From this study and the investigations at other experiment stations, it appears that the roots of perennial grasses do not die and decay, but year after year the plants keep sending down new roots, while the old roots continue to live and grow. Soon the soil becomes filled with the grass roots. Most of the nitrogen and some of the mineral elements of plant-food are stored up in these roots. The growth of foliage becomes less each year and the meadow or pasture becomes unproductive; hence the application of manures and fertilizers to old meadows is very beneficial, quickly causing an increased growth of grass. However, with such a grass as the Bromus inermis, the meadow becomes "sod-bound" and in order to renew the growth of the grass, it is necessary to kill out part of it by disking or plowing, thus allowing a part of the roots to decay, supplying plant-food for a renewed growth of grass and giving room in the soil for a new growth of roots.

Bromus inermis is a deeper rooting grass and a much more extensive feeder than orchard-grass. In a deeper soil the roots would have extended to a greater depth than found in this sample. At the North Dakota Experiment Station the roots of Bromo grass were secured to the depth of five and one-half feet. This grass spreads by underground rootstocks and forms a perfect sod, growing thicker as it grows older. Because of its deep-rooting character it resists drought well and is adapted for growing in light soils and dry climate, and is proving to be one of the best grasses to reseed the lands of the Western plains.

BIG BLUESTEM ROOTS.

In plate 14 is shown a sample of the big bluestem grass (*Andropogon furcatus*) one of the most common native Kansas grasses. The sample was taken from an upland prairie pasture on the station farm, and represents the full growth of the grass to August 7, at which date the sample was secured. This is an excellent specimen

of grass roots and is indeed a wonder when we consider the large number of roots and their great length. The roots were broken at four and one-half feet from the surface, and from the size and the number of roots at this depth, they must have penetrated at least two feet deeper through a compact, clayey subsoil. This grass apparently makes a deeper root growth than the Bromus



Plate 14. Big bluestem roots.

inermis, but the roots are less numerous, though somewhat coarser and present a more irregular and tangled growth. It forms a dense, tough sod, six to eight inches thick and the subsoil is filled with a great mass of roots. When the sod is broken up and the grass killed, these roots gradually decay and form humus, making the fertile soil for which Kansas is famous.

Grasses and Crops for Morris County.

Having bought 240 acres of land in Morris County I wish to ask you what crops you would raise on it, and what acreage of each? How much would you put into grass, and what kinds? Would you raise any wheat, and what kinds and amount of same? How many acres of corn would you plant, and which type, white or yellow? Or, is there any difference in their drought-resistant qualities? How many acres of oats would it be well to plant, and of what variety? Would you plow and plant or list in the corn? Which will stand the dry weather the better?

ZIRA F. HOLROYD.

Bureau County, Illinois.

All of the ordinary farm crops adapted for growing in Kansas may be grown in Morris County. The main crops now grown there are, according to the Fourteenth Biennial Report of the Kansas State Board of Agriculture, winter wheat, corn, oats, rye, Irish potatoes, millet, Kafir-corn, sorghum, grass, clover, and alfalfa. Just which of these crops you should grow on the farm in question and how much of

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each will be a hard matter upon which to advise you.

Doubtless you should grow some winter wheat, and probably the best wheat for you to sow will be a variety of the Russian or red Turkey wheat, seed of which can be purchased from this station, from the seed companies, or perhaps from the neighboring farmers. If the 240-acre farm is all tillable land, perhaps thirty or forty acres should be put into winter wheat.

Probably eighty acres or more should be planted to corn the succeeding season. As to just which type you should plant, white or yellow, it is a matter for you to decide. There are several varieties of good yellow corn and several varieties of good white corn. If you want medium early corn, the Silver Mine or Boone County White are good producers at this station. Of the medium late maturing sorts, the McAuley's White Dent, grown by W. S. McAuley, who is located in your county, at Americus, is one of the best producing varieties at this station. The Kansas Sunflower is a good producing variety of yellow dent corn which matures medium late. Early maturing varieties of corn are: Reid's Yellow Dent or Leaming. Among the latest maturing sorts which are heavy yielders at this station are the Mammoth White Dent, grown by Geo. T. Fielding & Sons, of this city, and the Hildreth Yellow Dent, grown by C. E. Hildreth. Altamont, Kans. There are also other good varieties of corn. As to a choice between white and yellow corn, possibly if the land is rather poor in fertility you should choose white corn in preference to yellow. As far as the feeding value of the corn is concerned, probably more depends upon the variety of white corn or yellow corn than upon the color of the corn. At this station the yellow and white corn yield equally well, although it is a fact that white corn has the reputation of being a little more hardy and drought-resistant than yellow corn.

As to whether you should list your corn or practice level planting, it will depend somewhat upon the season and the soil. Throughout Morris County corn is usually listed; although at this station, which is only two counties further north, we have had the best results with the level planting during the past two seasons, but the seasons

have been excessively wet. Unless your land is of a heavy, cold, wet character, doubtless the lister method will be preferable to the level method of planting.

Texas Red oats are generally grown in this State, although at this station we have found two other varieties which have given larger yields than the Texas Red, namely, the Sixty Day and the Kherson varieties. The original seed of each of these varieties came from Russia. We are growing a considerable acreage of the Sixty Day oats this season and will be able to supply a limited amount of the seed to farmers of the State. You can secure seed of the Kherson oats from the Nebraska Experiment Station at Lincoln; from the Griswold Seed Company, Lincoln, Neb., or from F. Barteldes & Co., Lawrence, Kans.

Kafir-corn is adapted for growing in Morris County, and a considerable acreage is grown. Sorghum will make one of your best forage crops, and may be sown broadcast or in close drills and cut with a mower and put up like hay.

You should seed down a part of your farm to grasses, clover, and alfalfa. Grasses adapted for growing in Morris County are Bromus inermis and English blue-grass. I should recommend, as soon as you have become well established, to keep about one-half of the farm in these crops all the time, breaking up old fields and seeding down new ones each season, following the clover, grasses, and alfalfa with corn and small grain crops. In order to rotate crops economically and successfully in this way and maintain the fertility of the soil, you should keep sufficient stock to feed the forage on the farm.

If none of this land is now in grass and alfalfa, you will probably not want to seed down 120 acres this fall and next spring, so it may be advisable for you to plant more than eighty acres of corn, Kafir-corn and other forage crops.

Other grain crops which you can grow successfully are winter rye and winter barley, also spring barley and emmer—more commonly known as spelt. Flax is also grown successfully in Morris County. I have sent you a copy of an outline of rotation systems, which I use in teaching my students

in agriculture. Perhaps this may give you some suggestions in growing and rotating crops. A. M. TENEYCK.

Side-Delivery Rakes—Baling Alfalfa.

I would like further information regarding the side-delivery hayrake spoken of in your article in the issue of the KANSAS FARMER for May 4, also bulletins in regard to haymaking, if you have any.

I have ordered a Dain side-delivery rake. They claim that this rake saves the leaves and will rake alfalfa when it is in a wilted condition. I am going to put up alfalfa by the "Wheeler" system. Why not the Wheeler system, if I can save hay with a higher nitrogen content? The Campbell system betters arid conditions and I believe my ideas in putting up alfalfa are better than the old way of stacking it in the field to bleach and lose its nitrogen.

To begin with, I intend raking the hay as soon as the alfalfa is well wilted but not dry. I shall use a side-delivery rake for this purpose. I will let the hay lay in the windrow until cured, when I shall take it with an Acme sweeprake and haul to the baler (the Auto-Fedan Hay Press) and bale directly from the field. I believe I can put the hay into bales at about the same price as stacking with any of the improved hay-stacking, or as I call it, hay-rotting machinery. No hay will keep in a stack unless well-stacked and well-cured and then the outside always spoils. I intend baling No. 1 hay and putting it under cover, and I believe there will be more satisfaction in handling and feeding than there is with the loose hay.

From experience I had while at Fort Hays Station last summer I believe a baler could be used to an advantage out there.

I have a shade on my press and am going to work in true college style. Saline County. CARL WHEELER.

I can not give you further information regarding side-delivery hayrakes, since I have not used them. I think your plan of trying the rake before you buy it is a good one. It is my judgment that the side-delivery rake may shake off leaves worse than the self-dump rake, but if you rake the alfalfa before it gets dry, simply when it is well wilted, you will not have much loss by the breaking off of the leaves.

I think your plan of putting up alfalfa will work. There will be some shattering of leaves when the alfalfa is hauled to the baler with the sweeprake. A rake which may be elevated from the ground when loaded would be preferable I believe to the kind that drags on the ground.

A am not acquainted with the Auto-Fedan hay-press. In 1903 we used the Junior press, manufactured by the Kansas City Hay Press Co., in baling alfalfa from the field. You probably know the results of the work. We found that it was not safe to bale alfalfa until it was fully cured, and the hay that was baled more or less green spoiled. This experiment is reported in Bulletin No. 123, a copy of which you doubtless have. In that bulletin is some discussion as to the capacity of the baler required for baling from the field. In order to economically and rapidly put up hay by baling from the field it will be necessary to have a baler of large capacity. The baler which we had possessed a capacity of about ten tons per day; this was altogether too small in capacity; I should say that a baler should have a capacity of twenty tons per day in order to put up much hay in this way without too great expense and loss.

The Fort Hays Experiment Station has purchased a baler, which will be used this season. A. M. TENEYCK.

Grasses for Wild Sod.

Would you advise sowing redtop, timothy and blue-grass seed on wild bottom-land sod? At what season of the year would the seed catch best in such sod? CARL S. HIGH.

Reno County.

It might be a good thing to sow a little redtop and Kentucky blue-grass seed on the wild sod, after thoroughly disking the same. Early spring is the

best time to sow. We disked a piece of prairie sod very early this spring, before the grass started, and sowed Bromus inermis and red clover. Although the spring was quite dry, yet I notice that the clover has started abundantly and considerable of the Bromus inermis is starting, also the wild grass has renewed its growth. If your land is rather low and not well drained, I would recommend to sow a little Alsike clover with the grass-seed, two or three pounds per acre. On higher, well-drained land, the red clover should be sown.

If you would merely disk this wild pasture or meadow early in the spring and seed a little Alsike or red clover, the result would be a renewed growth of the wild grasses and probably a fair catch of clover, which will tend to make the meadow or pasture much more productive. A. M. TENEYCK.

Anderson County Reports.

EDITOR KANSAS FARMER:—The prospects for a good crop are better than for several years in this part of Kansas and the farmers have their work well in hand. Wheat and oats are looking well. Corn, notwithstanding the cool weather, is a good color, is growing and is mostly cultivated once.

We are having about the right amount of moisture. Not much prospect for small fruit but prospect of a good crop of apples.

A large force of men are laying the gas pipe in front of our place this week. D. S. T.

Anderson County.

New Hard Wheat.

EDITOR KANSAS FARMER:—I noticed with interest your article on improving new hard wheat-seed. This meets with my hearty approval as I notice that our hard wheat is deteriorating very fast. It is very plain that if we wish to keep up our standard of wheat yield something must be done soon. There should be a distribution of hard wheat-seed throughout the State. Please advise me if any should be sent in as I want some. J. H. SHRADER.

Edwards County.

Bromus inermis for a Permanent Pasture Grass?

Is Bromus inermis suitable for a permanent pasture grass? I have read considerable concerning Turkestan alfalfa and would like to have some information regarding the crop. Does it make a good quality of hay? G. H. DAVIS.

McPherson County.

I have sent you a copy of Press Bulletin No. 129, giving information regarding Bromus inermis. This grass can hardly be considered a "permanent" pasture-grass. The grass makes excellent pasture for a few seasons, but gradually becomes thick and sod-bound, and unproductive, when it is best to break the sod and plant the land to other crops, seeding down new land to grass. Used in rotation in this way Bromus inermis is an excellent pasture-grass.

If it is desirable to continue the use of a Bromus inermis pasture for a longer period than four or five years, it is possible to renew the growth of the grass by severe disking and manuring, or in a wet season early in the spring the Bromus sod may be broken and rolled down and the grass allowed to start again, as it will, making a good stand by the following season. I prefer, however, to seed down new land and break the old sod, planting grain crops for a few seasons before returning the land to grass. This method of growing grass results not only in a larger production of grass for meadow or pasture but larger crops of corn and small grain may be produced by growing them in rotation with the grass crop.

We have been growing Turkestan alfalfa at this station for several seasons. During the past two seasons it has made a good growth but has not produced quite as large crops as the common alfalfa. Wherever alfalfa grows well, as it does throughout the larger part of Kansas, the common alfalfa will probably prove superior to the Turkestan alfalfa. The Turkestan

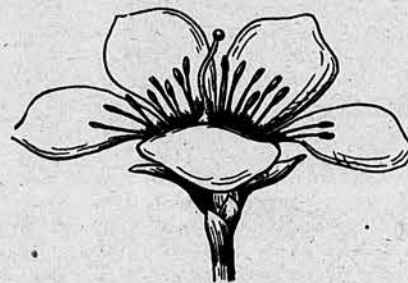
alfalfa is evidently slightly harder than the common alfalfa, and may be grown further north and perhaps further west. It may be advisable for you to try the Turkestan alfalfa in McPherson County. As far as the quality of the hay is concerned, no analyses have been made at this station, and no difference has been observed in feeding the Turkestan as compared with the common alfalfa. The Turkestan alfalfa is really only a variety of the common alfalfa, and in appearance the plants are very similar. A. M. TENEYCK.

Horticulture

A Peach Sport.

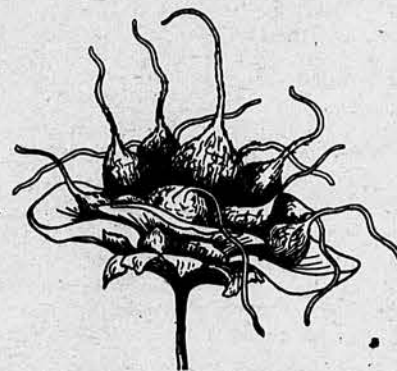
Mr. L. Beaumont on Route 3, has a freak peach-tree which interests fruit-growers. It blooms the same as other peach-trees, but in each blossom from four to sixteen peaches try to get into the game, and the young expanding fruit looks like clusters of hazelnuts rather than like peaches. Mr. Beaumont says this tree cuts up this way every year, and that the peaches are all crowded off the twigs long before they ripen or mature. Have any of our fruit-growers ever encountered anything like this?—Howard Courant.

The human race does not furnish all the examples of eccentric freaks. Plants as well as men sometimes take it upon themselves to do something out of the ordinary, not because it is especially useful or beautiful, but just on account of an unusually freakish disposition. The peach blossom here-with figured, came from a tree which,



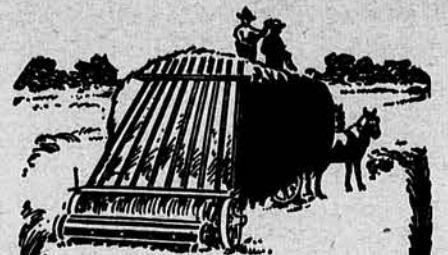
Normal peach blossom.

we are told, performs in this manner every year. It blooms as other peach-trees do, but seems to have considered the stamens as useless organs, and to have disposed of them, and, remembering the maxim that he who makes two blades of grass grow where only one grew before is a benefactor, etc., seemed to have attempted to make half a dozen peaches grow where one grew before. It is simply a monster and should be classed with two-headed ponies, five-legged calves, mule-footed hogs, etc. But there is a very interesting side to the question after all.



Abnormal peach blossom.

It is an example of the extreme instability of plant forms. It exhibits the readiness with which one part of a plant may be transformed into another. Sometimes without any apparent cause, but more often following a radical change in soil, climate or cultivation methods, the plant will change its form and make petals of stamens, or have the calyx lobes grow out into leaves or else become colored or petal-like, or sometimes it will lose the power of forming seed almost entirely, and, like some hydrangeas, produce only showy sterile flowers. We had Echinacea plants growing in the botanic grounds here last year which were taken from the very unfertile,



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chalky lands of Southwest Kansas, which when planted on fertile soil, seemed to go perfectly crazy. Many of the heads produced no seed at all, but sent up through the flowers, instead of pistils and stamens, bunches of small green leaves. This ready interchangeability of leaves, petals, stamens and pistils is an evidence that they are all very closely related organs. In fact, the botanist interprets the whole plant in terms of root, stem and leaves. He considers the flower parts as only leaves profoundly modified to form the reproductive organs of the plant. Scarcely less profoundly are stems modified to form thorns, tubers or tendrils or the roots modified to form storehouses for food, as in the turnip or sweet potato.

A slight change only, is usually overlooked, but the skilled plant-breeder will see the slightest variation, and if it be in a useful direction, will select those plants from which to breed, and in the course of time may make wonderful improvement in the value of a plant for food or ornament. In this way the cabbage, cauliflower and Brussels sprouts were all developed from a single insignificant European weed and the Dahlia has been developed from a simple and homely wild flower, to one of the queens of the garden.

A sudden and marked variation, as in the peach flower shown here, is called a sport. Sports are sometimes useful or otherwise interesting, and as such are propagated. The weeping birch or spruce, and various seedless fruits are examples. Variation which is so profound as to interfere with the nutrition or growth of a plant or a part of the same, as in the present case, where none of the peaches reached maturity, might be more properly spoken of as a monstrous growth. Monstrous growths which are caused by some diseased condition, as the growth of a fungous or insect gall, must be distinguished, however, from spontaneous variation as in the case

of the peach flowers under consideration.

Numerous and sundry sports have been recorded among peaches and to give a list of all of them would be tedious. The case which we have in hand is where the stamens have been transformed into pistils so that in addition to the normal pistil there is a little pistil for each stamen of a normal flower. While this has been reported several times notably in Germany, France and Italy, it has not, to my knowledge, been previously reported in this country. Double peaches are common, being caused by an increase in the number of carpels. They may grow about equal and make twin peaches, or one or the other may get the start, producing one large and one small side to the double fruit.

There are varieties of peach-trees sold on the market as ornamentals, which have come from sports in which the stamens have changed into petals and produced beautiful rose-like double white or pink flowers. In addition, a few of the more common sports of the peach may be enumerated as follows: The weeping peach; cases where both stamens and pistils have changed to petals; change of sepals and bracts into petals; and, where the calyx adhered to the pistil, developing with it and thus helping form the fruit. For comparison, there is given in the cut a normal peach flower along with the sport.

GEO. F. FREEMAN,
Assistant Botanist,
Kansas Experiment Station.

For a National Apple Day.

EDITOR KANSAS FARMER:—Having filled the office of secretary of the Mississippi Valley Apple Growers' Association for the past seven years, I naturally take a deep interest in all horticultural meetings all over the United States, but especially those of the Middle West. I have, therefore, read with much pleasure the attractive programme that has been prepared for the Kansas State Horticultural Society which holds its summer meeting at Wichita, early in June.

If the programme is carried out with all the points as presented, there will be but little time left for swapping stories or taking up many new subjects.

I wish, however, through the courtesies that I hope will be extended by the KANSAS FARMER, to catch the attention of some of the horticulturists of the great fruit State, and urge them to give careful consideration to the matter of extending moral support to the movement of establishing a National apple day. All that will be asked of those in attendance will be to do as many other horticultural societies have done, to adopt a resolution in its favor. This movement has been supported by the New York State Fruit Growers' Association, Peninsula Horticultural Society, National League of Commissionmen, Arkansas State Horticultural Society, and several horticultural societies in the far Northwest, including Idaho, Washington and Oregon and many other organizations.

The movement was not started in time to present it properly to the horticultural societies that held their meetings last fall and early in December, hence, the matter will be urged before all societies holding summer meetings. I am glad to say, however, that in cases where there will be no summer State meetings, the executive committees of such societies are pronouncing heartily in favor of the event.

In order to have the day set at a time when late fall and winter apples will be abundant and available, the third Tuesday in October has been agreed upon for the date by general consent. No fees nor dues nor collections of any character are asked for, the general consensus of opinion being to let each State, National, district and local society observe the day as they may think proper. Many county fairs, and farmers' institutes will be held during the month of October and they can easily attach this as a feature. The idea of having such a day is for the purpose of booming the king of fruits and placing it in more

general use. The wholesale and retail dealers in fruit will be among the first to generally observe the day all over the United States and this will force an unusual quantity of apples on the market; it will probably require not less than a half million barrels to supply the wants of the market for that day.

It can be readily seen that many salutary influences greatly to the benefit of the grower, will spread in manifold directions through a proper observance of the day. With the coming of future years, it will be found that we will be continually confronted with new propositions, many of which cannot now be anticipated. Time will develop very much that will be essential for the preservation and profitable pursuit of the apple industry. With the concentration of thought that will center around this annual returning of a National apple day, solutions will certainly be found for many problems which for the past few years have been very perplexing to even the persistent apple-grower, to say nothing of those who are only thus far playing and dallying in the business.

Your State society will be formally requested to take action in the way of passing a resolution in the favor of this movement and I would appreciate the courtesy of having space in your paper for the publishing of this article, so that your readers may measurably have some necessary information on the subject.

Quincy, Ill. JAMES HANDLY.

Kerosine Emulsion for Plum-Leaf Aphis.

EDITOR KANSAS FARMER:—I enclose a leaf from a plum-tree which you will see is covered with insects. They appear to be eating the leaves. What are they, and will they do any harm? If so, what is the remedy?

Neosho County. J. BEESWELL.

The plum-leaf is very badly affected with plum-leaf aphis. This is a common insect and, like plant lice, it is hard to fight because it must be killed by something which kills by contact and not by poisons applied to the foliage of the plant.

Kerosine emulsion is sometimes effective and tobacco decoction seems to check its work. If but a few twigs are affected, it is about as easy to cut off the twigs and burn them as to fight with a spray. Where there are a number of trees they rarely cause any considerable damage, and if you have but a few, some hand-work will be most effective. Kerosine emulsion may be prepared as follows:

KEROSENE EMULSION.

Two gallons kerosene, 1 gallon sour milk.
Or, ½ pound hard soap, 2 gallons kerosene, 1 gallon boiling soft water. Dissolve soap in water, allow to cool, add kerosene and emulsify.
Both of the above are emulsified by agitating until united. This may be done with a churn. A force-pump is often used. To use, add one part of either of above to fifteen parts water.

ALBERT DICKENS.

Copperas or Vitriol as a Weed-Killer.

WM. FREAR, PENNSYLVANIA EXPERIMENT STATION.

Copperas (otherwise called green vitriol or ferrous sulfate) has recently been extensively advertised as a weed-killer. Its value for this purpose has been very frequently tested during the past decade, especially in France, Belgium and Great Britain, and also in Canada. It is generally applied in 15 to 20 per cent solution in water (7 to 9 pounds per barrel) at the rate of 40 to 50 gallons per acre, for the destruction of charlock, wild mustard, and wild radish. To secure good results, the application must be made while these weeds are still young and tender, before the time of blooming. It is much less effective on older plants.

Instead of using the copperas as a spray, the farmers of Belgium spread it, in a dry, finely pulverized state, broadcast on the ground. The quantity thus applied is from 200 to 300 pounds per acre. Ordinary copperas consists of rather hard green crystals containing about 45 per cent of water. On exposure to air, the material gradually loses water, and becomes yellowish or brownish white and powdery. If heated a little above the tem-

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perature of boiling water, the entire mass rapidly whitens and crumbles. This freshly heated, finely powdered sulfate is found to be far superior to the ordinary green crystals for dry application after the Belgian method.

It is not, however, a universal weed-killer. It is especially effective for wild charlock, wild mustard and wild radish, but kills wild barley, shepherd's purse, wild buckwheat, ragweed, wallflower, ground-ivy, lamb's-quarter, and sometimes field poppy, crowfoot and cardoon also. Curly dock, black bindweed, sowthistle, groundsel, comfrey, and aegopodium are somewhat injured; and, more rarely, dandelion and English daisy; while smooth-leaved charlock, cornflower, bent-grass, couch-grass, horse-tail, chamomile, goosefoot, dead nettle, speedwell, spurge and thistles, and often bindweed, field poppies, dandelion and English daisy are entirely uninjured.

The cereal crops are scarcely injured, the edges and tips of the leaves being sometimes slightly browned, but usually recovering fully in a couple of weeks; neither are sugar-beet, garden peas, grass, or commonly the legumes seeded with the grain; sometimes, however, very young clover and lupines are slightly injured; while field peas and beans are considerably hurt, and vetches, potatoes, turnips, rape, and flax, seriously. Alfalfa is injured, sometimes killed by the dry application.

A sample of "Cereal Weed-Killer"

made by F. Rosener, Brooklyn, N. Y., has recently been received by the station. The directions require its use in the dry state, at the rate of 40 to 50 pounds per acre, broadcasted on the plants after a strong dew or slight rain. The claim is not made that it will kill all weeds, but that it will destroy most annual weeds, and injure those of longer growth. The presence of a small amount of nitrate of soda was also claimed to increase the vigor of growth of the cereal crops upon which this weed-killer is applied.

On analysis, the material was found to be ordinary green vitriol deprived of about two-thirds of its water, and finely pulverized. No nitrate of soda was found in this particular sample.

This "weed-killer" may be a desirable article if sold at a reasonable price. It will doubtless prove effective, if used in large enough amounts. Belgian experience indicates the need for about five times the quantity recommended in the manufacturer's circular.

Copperas is sold at \$2.75 to \$3.00 per hundred pounds. One hundred pounds of copperas will yield, when suitably heated, about 70 pounds of this finely divided product.

To the Stockholders of the Farmers Cooperative Shipping Association.

You are hereby notified that the Annual Meeting of the Stockholders of the Farmers Cooperative Shipping Association will be held at the National Hotel, Topeka, Kansas, at 4 p. m., Wednesday, June 7th, for the purpose of electing a Board of Directors and transacting such other business as may legally come before the stockholders.

F. Englehard, President.
H. R. Signor, Secretary.

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JUST ISSUED

Farm Grasses of the United States

By W. J. SPILLMAN

Agrostologist, U. S. Department of Agriculture

An intensely practical discussion of the farm grasses of the United States of America is presented in this volume. It is essentially a resume of the experience of American farmers with grasses, and it is safe to say that no other work has covered the ground so thoroughly. No attempt has been made to give a connected account of all the grasses known in this country, but the aim has been rather to give just the information which a farmer wants about all those grasses that have an actual standing on American farms. The whole subject is considered entirely from the standpoint of the farmer. One of the most valuable features of the book is the maps showing, at a glance, the distribution of every important grass in the United States; and the reasons for the peculiarities in this distribution are fully brought out. The principal chapters treat on the grass crop as a whole and the relation of grass culture to agricultural prosperity, meadows and pastures, the seed and its impurities; the bluegrasses; millets; southern grasses; redtop; orchard grass; brome grasses; grasses for special conditions; hay-making machinery and implements; insects and fungi injurious to grasses, etc., etc. The methods followed on some pre-eminently successful farms are described in detail, and their application to grass lands throughout the country is discussed. The discussion of each grass is proportional to its importance on American farms.

This book represents the judgment of a farmer of long experience and with observations regarding the plan in agriculture of every grass of any importance in American farming. In its preparation its use as a text book in schools as well as a manual of reference for the actual farmer has constantly been kept in mind. The book is most conveniently arranged and splendidly indexed, so that the reader may find any subject at a glance.

Illustrated, 5x7 inches. 248 pages. Cloth. Price, postpaid, \$1.00.

KANSAS FARMER COMPANY

TOPEKA.

KANSAS

The Stock Interest

THOROUGH-BRED STOCK SALES

Dates claimed only for sales which are advertised or are to be advertised in this paper.
June 6-9, 1906—Blue Ribbon Cattle Sale at Kansas City, Mo. D. B. Mills, Des Moines, Iowa, Manager.
October 18, 1906—Fancy Poland-Chinas at Osborne, Kansas, by F. A. Dawley, Waldo, Kans.
February 21-23, 1906—Percherons, Shorthorns, Herefords and Poland-Chinas at Wichita, Kans. J. C. Robison, Manager, Towanda, Kans.

The New Experimental Hog Yards at the Kansas Experiment Station.

EDITOR KANSAS FARMER:—The Dairy and Animal Husbandry Department has just completed the work of constructing new hog-pens and new experimental hog-yards. The hog-houses are 20 feet long and 12 feet wide, and arranged so that they will accommodate the hogs from two yards. There are large double doors at each end, so that on sunny days the sun can shine into the building. The fences are built of the Ellwood hog netting, with 6-inch white cedar posts. These posts are all set in cement. This scheme was suggested by J. W. Berry, of Jewell County, the object being to preserve the wood at the base of the post and to create a larger bearing surface in the ground, as the cement naturally becomes a part of the post, and the greater bearing surface the post has, the less liable it is to be pushed out of line or rooted out of the ground. The amount of cement used for each post depends upon the location of the post, nature of the soil, and the amount of strain it has to stand. O. ERF.

Lien for Service of Stallion.

EDITOR KANSAS FARMER:—Will you kindly inform us if there is any stallion law in our State, or any law regarding collection of stallion services. Please answer through the columns of your valuable paper or otherwise, as you wish. S. P. LANGLEY, Graham County.

The Statutes of Kansas provide, Chapter 120, Section 27, that the owner of any stallion, bull or jack shall have a lien on the offspring of his animal

for the full value of the service fees for getting the said offspring. At or before the birth of the offspring the owner of the sire must file in the office of the register of deeds in the county where the dam is kept, a list of the names of the owners of the dams, with a description of the dam on whose offspring he claims a lien. This lien is enforced as other liens on personal property.

Sections 17 to 25 of said chapter 120 provide the methods of procedure for enforcing such liens. These are rather long for reproduction here. Call on any justice of the peace and read in the Statute book the sections here referred to.

The proceedings of the eighth annual convention of the National Live Stock Association, held at Denver January 10-15, 1905, constitute a book of 379 pages. Much useful statistical information is given in convenient tables.

The Shorthorns to be Sold in the Kansas City Interstate Breeders' Sale Next Thursday, June 8.

In taking into account the opportunities which the season shall present for the purchase of pure-bred cattle, our readers should not fail to recognize the Interstate Breeders' Combination Sale, held under the direction of Manager D. R. Mills, at Kansas City, on Thursday, June 8. Mr. Mills has taken a good deal of pains in the selection of the consignors to this sale and advises that he is satisfied that the consignments will be above the usual order with respect both to breeding and individual character. There will be Shorthorns and Herefords. The Hereford cattle are referred to at some length elsewhere in this paper. The Shorthorns are contributed by Otto Gehlbach, of Trenton, Mo.; M. L. Logan, Lincolnton, Ia.; A. W. Barker, Clio, Iowa; J. A. Shira, Mercer, Mo.; A. L. Casady, Fairfield, Iowa; A. Gaddis & Son, McCune, Kans.; J. W. Reams, Eudora, Kans.; Jos. Connell, Kearney, Mo.; D. W. King, Table Rock, Neb.; and perhaps others. In the Gehlbach consignment are the bulls True Lavender, Orange Knight 2d, and the cow Louan of Goodview 3d. True Lavender is a red March 2-year-old and lacks but very little of being a straight Scotch Lavender bull, the only outcross having been that of Potts & Son's noted Proud Duke, sire of the fourth dam. His sire was Grand Lavender, a Bothwell bred son of Grand Victor. Grand Lavender is a Cruickshank bull of more than ordinary intensity of Cruickshank blood, both sire and dam for

five generations back having scarcely a single outcross and these almost without exception trace back to Cruickshank strains. Were there space to enlarge upon the breeding of this bull, it could be done in a most interesting manner. He is said to be a splendid individual and will no doubt be carefully watched by buyers. Orange Knight 2d is a nice red 3-year-old bred by Purdy Bros., and is sired by Golden Knight of Enterprise, the royally bred member of Mr. Cruickshank's celebrated Golden Drop family. Orange Knight 2d's dam is a Prince of Orange cow tracing to Imp. Rosemary. Louan of Goodview 3d was by Baron Bishop and her dam was a daughter of Imp. Chief Baron. Back of that are several generations of pure Bates blood and of individuals that were history-makers in their day. She is also described as being possessed of more than ordinary quality.

Mr. Cassady presents but one animal, a pure Bates bull, Waterloo Chief, 2 years old last April. His sire was Wild Eyes Duke 5th, a well-known bull that was used in the Elbert & Fall herd. His dam was a daughter of the English-bred bull, Oxford Duke of Calthwaite 3d, and belonged to the Water Girl tribe. Any one who is in search of pure Bates breeding can not go wrong on this animal. The five cows and two bulls that have been selected by Mr. Logan are of choice individuality and strains of breeding that are highly popular. A 2-year-old bull is a son of Chief Cruickshank 152738 and his dam was a daughter of Royal King. Back of them there are the names of good individuals to the fourth dam which was Imp. Princess Royal. It is a magnificent pedigree from all points of view and one that can not well fail to interest critical Cruickshank breeders. Rose's Dudding 231386 is a red 2-year-old bull by Baron Dudding, well known at one time as the head of Ben Myers' herd. His dam was a daughter of the Persons' bred bull, Banner Bearer, second dam Home Secret, and third dam Imp. Spartan Hero tracing to Imp. Rosemary. Here also is choice-ness which might well be dwelt upon in a most interesting way. Cherry Rose, one of the cows, will be 3 years old in October. She is a daughter of Barmpton Chief and her dam was of strong Bates lines of blood. Minnie Seevers is a red cow, 2 years old, by the same sire and also tracing well to Kentucky Bates Breeding. Red Violet, another 2-year-old heifer, is by St. Patrick, her dam having been by Barmpton Chief. Red Rose and Pure Gold are both red 3-year-old daughters of Barmpton Chief and the latter has several good Scotch top crosses. In the Connel consignment is a most excellent red yearling bull that scarcely needs other commendation than an enumeration of the most excellent Bates pedigree which he possesses. His sire was Walnut Duke of Kearney, he by Kirklevington Duke of Excelsior. On the side of the dam appear such noted sires as 35th Duke of Aldry, Grand Duke of Waterloo, etc., tracing to the imported cow, Mina.

Of the Barker lot there are two bulls, Royal Dudding 237847 and Pride of Wayne 233531, that are worthy of notice. The former is a son of Baron Dudding having for dam Countess 7th, a daughter of a Canadian bred cow of strong Scotch blood. The fifth dam was Imp. Countess 5th by Star of the Border. It is an excellent Scotch pedigree. Baron Dudding



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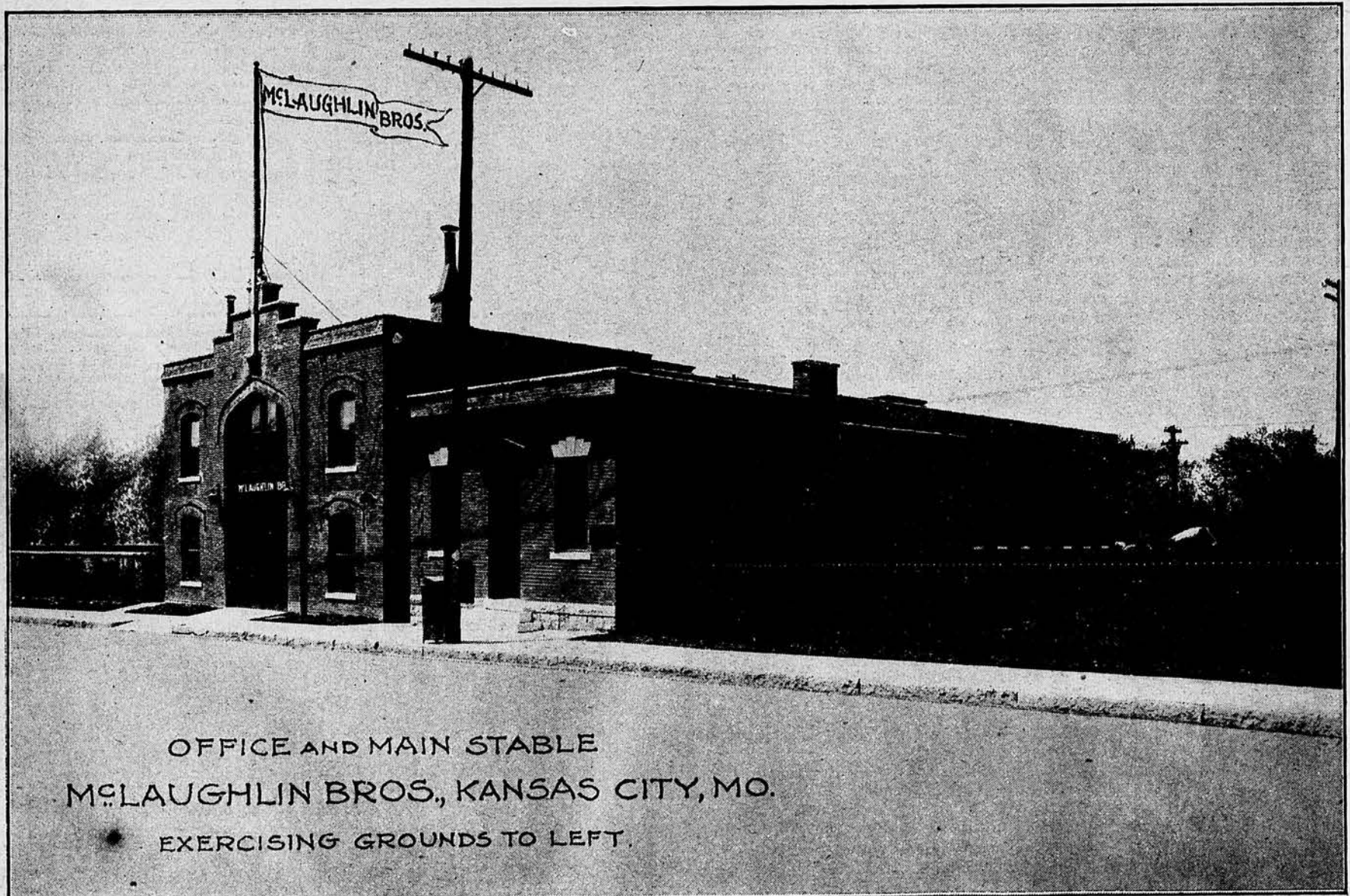
was the sire of Imp. Spartan Hero, one of the most valuable breeding bulls ever brought to the West. Pride of Wayne was by Violet's Knight and his dam was Imp. Duchess of Fife.

Mr. Shira will sell Baron Summerville, he a son of Baron Dudding, already referred to. His dam was by the well-known Harris bull, Gallahad, and further back than that will be found the names of Chief Justice, Pride of the Isles, etc. It is an admirable pedigree and we have no doubt that the bull is good enough to be carefully looked after.

In the Gaddis lot is an eleven-hundred pound, 17-months-old red bull calf, a son of the massive Scotch bull, Chief Victor. Chief Victor was a Scotch Victoria, tracing to Victoria 51st by Royal Duke of Gloster. The dam of this calf was bred at Bunceton, Mo.

Mr. Reams will sell a fine red, 4-year-old bull, Bonner Boy, a solid red, with straight lines and good scale. His sire was The Baron, at one time at the head of the Wallace herd and later used by D. F. Risk and Andrew Pringle. His dam was of Bates lines. This bull is well spoken of.

Mr. King sends a fine red, 3-year-old bull highly recommended. It should be kept in mind by our readers that at this sale there will be sold both Herefords and Shorthorns, that the offering is a desirable one and that the



Herewith we present a picture of McLaughlin Bros. new horse barns and office building at Kansas City. This establishment occupies the entire block on Cherry between 18th and 19th Streets and is a branch of their main importing house at Columbus, Ohio. They also have another large branch located at St. Paul, Minn. This barn is elaborately equipped with everything necessary for the carrying on of their business as importers of Percheron, Belgian and French Coach horses. The business of the McLaughlin Bros. has been growing with enormous strides the last few years, and they now find it difficult to buy a sufficient number of horses of the right quality with which to supply their trade.

opportunity is one of but a few which remain for the present season. Catalogues may be had by forwarding applications to Manager D. R. Mills, Des Moines, Iowa. A few additional entries will be received if forwarded immediately.

The Herefords to be Sold at the Interstate Breeders' Combination Sale Next Thursday, June 8.

The Interstate Breeders' Combination Sale, to be held at Kansas City, Mo., on Thursday, June 8, under the management of D. R. Mills, will be one of the last of the great sales of the season and likewise one of the last opportunities to secure bargains in pure-bred cattle before the rise in values which is slowly and surely coming. A large and varied assortment of Shorthorns have been listed for this important event. They are consigned by well-known feeders from four different States and the sale will embrace a superior class well worth looking after. The contributors of Herefords are George E. Reynolds, Kansas City, Mo.; H. C. Taggart, Linneus, Mo.; G. B. Little, Olathe, Kans.; Wood Roberts, Dearborn, Mo.; F. W. Preston, Irving, Kans.; J. J. Early, Baring, Mo.; F. C. Gehm, Lottant, Ill.; J. B. Osborn & Sons, Erie, Kans.; L. P. Larson, Powhattan, Kans.; and perhaps others. This is practically a bull sale and a grand opportunity for the breeder, rangeman, or beginner, although there are a number of choice cows and heifers which should not be lost sight of. Some of the bulls are of exceptionally good character. For instance, those consigned by Mr. Reynolds. Four of these are strong young bulls ready for service, sons of that splendid descendant of The Grove 3d, Heslod's Best 12005, he by Heslod 17th. They are all 2-year-olds of the low-down, beefy type and embracing the combination of the most fashionable blood of the Hereford breed. One of these is Heslod's Best 2d 18546, a December 2-year-old. His dam was Nina by Star Elm 51195, a grandson of The Grove 3d. The second and third dams are of Anxiety blood. Another is Heslod's Best 3d, whose dam is Pauline, a granddaughter of that great old bull, Fowler, carrying also The Grove 3d, Lord Wilton and Anxiety blood close up. The others are animals extra well bred and all are of splendid individual character. They will make desirable herd-headers for some one. Among Mr. Reynolds' cows is Hecuba, a daughter of Tom Beau Monde 71176, he by Beau Real. Her dam was by a grandson of Lord Wilton and the second dam by a son of Anxiety 4th, third dam being also a Lord Wilton cow. Minnie Wilton, another of his cows, is by a grandson of Harold and her dam is by Beefy Boy, he by that great old bull, Cherry Boy. Still further back than that is The Grove 3d blood. Another of these heifers is by a son of Lamplighter with a Lord Wilton bred dam. Throughout this lot of cattle are such as to attract attention not only because they are bred right but because we have the assurance of their owners that their general character is as good as their breeding.

In the Taggart lot will be found the bull Alfonso 3d, bred by Mr. Funkhouser, weighing two thousand pounds and a grandson of True Lance. His dam was a daughter of old Cherry Boy. This bull is a tried breeder and is disposed of only because Mr. Taggart can not use him longer in his herd. Another bull from the same herd is the 18-month-old Fulfiller, of Locust Grove, a son of the Harris show bull, Fulfiller, and a chip off the old block. J. J. Early sends forward a choice lot of well-bred bulls with the statement that they are also excellent ones, several of them being deserving of special mention. Lost Boy 187512 is an 11-month-old calf, a big, mellow fellow with a long, deep body, wide, close to the ground and the making of a great bull at maturity. His sire is a grandson of Ancient Briton, that Columbian Exposition champion so well known in his day. His dam was an excellent cow of The Grove 3d blood with strong milking tendency. Another of these bulls is a 2-year-old, big, smooth, fellow with good head and nicely drooping horns, a son of Royal Wilton 82821. The latter is a Nave-bred bull and an extra good individual. His dam was a daughter of Java, the great Sunny Slope bull that sired Dolly 5th, the cow that sold for \$3,150, as well as many other high-priced ones. Lewellen 187783 is a yearling by General Grove, he by Corrector. His dam was Autumn Beauty, one of Mr. Early's best cows. This bull is described as a stylish fellow with good head and horn and possessing the lofty carriage so characteristic of the descendants of Corrector. Elbert, another yearling, is a perfect block, very wide and deep and as smooth as an egg from end to end with four as short legs as can be set under a bull of his size. He was sired by another son of Corrector, General Grove, and his dam was Miss March On 3d by Imp. March On. This is an excellent pedigree.

Mr. Roberts' consignment includes two Columbus Chief 2d 2-year-old bulls, one of which, Columbus Chief A., is worthy of special mention. Mr. Roberts says that too much can not be said of him. He is nicely bred and should be looked after by some one.

Mr. Gehm sends a consignment of handsome 2- and 3-year-old heifers rich in the blood of Corrector, The Grove 3d and Anxiety 4th. They are of good colors, very attractive individuals and must draw attention at this sale.

Mr. Preston, secretary of the Marshall County Hereford Breeders' Association, sends a good, vigorous 1100-pound 2-year-old bull by Elvira's Java, a 2200-pound old bull. The dam of this youngster is a 1500-sire. It will be remembered that pound cow. Elvira's Java is from Elvira's Java 2d, Mr. Stannard's cow that raised so many show calves. Mr. Little has listed two choice bulls by his herd bull, Antonio, one of the best sons of Imp. Roderic, formerly in the herd of Messrs. Scott & March. Mr. Little writes that there are two fine representatives of his herd bull that should attract special attention. Osborn & Sons send their tried herd bull, Grape, a son of Earl Wilton, a full brother to the great Dale. They have also listed a good young son of Grape to dem-

onstrate how he breeds. Mr. Larson has just listed eight good ones, described as choice individuals and possessing attractive blood lines.

Buyers will find this an unusually good consignment to select from and should send for catalogues at once. Additional entries will be accepted up to date of sale so that the number to select from will be large and varied. Catalogues are now ready and may be had by applying to D. R. Mills, sale manager, Des Moines, Iowa.

Iowa Swine-Breeders' Association.

The annual meeting of the Iowa Swine-Breeders' Association will be held at Des Moines on Tuesday, June 13. The meetings will occur in the Commercial Exchange. Rates of one- and one-third fare are announced on all of the railroads leading into Des Moines. The program contains the names of a number of the most prominent swine-breeders of the State and also includes the name of Hon. James Wilson, Secretary of the United States Department of Agriculture. On Wednesday, June 14, the National Association of Expert Swine Judges will meet at Des Moines for score-card practice and the granting of certificates as expert judges to those who qualify.

Gossip About Stock.

Geo. G. Wiley & Son, South Haven, Kans., have a fine lot of Duroc-Jersey pigs that are just weaned and ready for customers. They can also spare a few sows and gilts that are bred for fall farrow.

Those persons who attended the Shorthorn sale held on May 16 at Topeka by the Shawnee Breeders' Association will remember that Col. J. W. Athey of Brownell Kan., was a good buyer. Of the five bulls which he took home from this sale, four have already been sold at a good profit and the other one will be used in Mr. Athey's own herd. The bulls sold in the Topeka sale were bargains.

Galloway breeders will be interested in knowing that C. N. Moody of Atlanta, Mo., will make an exhibit of his cattle at the Lewis & Clark Centennial Exposition at Portland, Ore., this summer. Mr. Moody's show-herd will consist of twenty head of breeding animals and six steers. With these he hopes to capture a fair share of the prize money, as he has been in the habit of doing at the various State fairs where he has exhibited.

Wm. Knox, South Haven, Kans., starts an advertisement in this issue of the Kansas Farmer, in which he offers a choice lot of Poland-China swine. Mr. Knox has built up an unusually good local trade in Poland-Chinas, but desires to extend his field of usefulness, and so makes this announcement in the Kansas Farmer. Note his advertisement on page 590 and write or telephone him for detailed information about his well-grown, smooth, heavy-boned, useful Poland-Chinas.

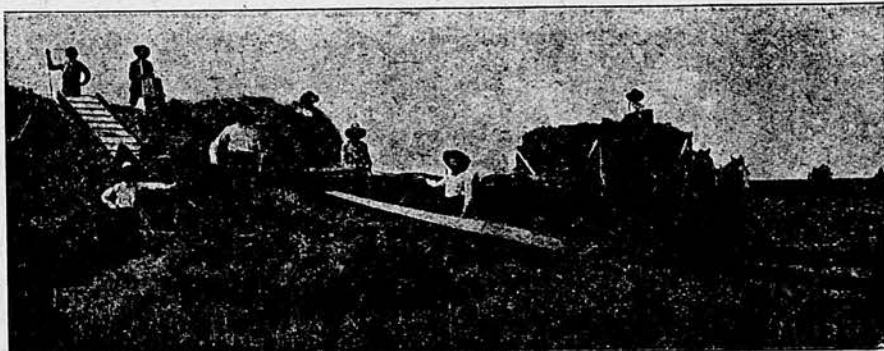
The Kansas Farmer representative lately called at the home farm of that veteran breeder of good hogs, T. A. Hubbard, Rome, Kans. He found about 300 head of pure-bred Berkshires and Poland-Chinas, including about 200 pigs. Our representative states that Mr. Hubbard has the best lot of winter and spring pigs on hand that he has seen anywhere this spring, and this remark applies to both breeds. The young pigs are grown on alfalfa pasture and are very thrifty. Mr. Hubbard has a good strong trade in both these standard breeds of swine and at this time he has a few real good, serviceable boars and also a few bred gilts that

The Merits of the Small Thrasher.

The sooner your small grain is thrashed the better. For this there are several reasons. Every day the grain stands in the shock there is liability of injury from bleaching, rain, wind and wild fowls. The proper thing to do is to run the grain through the machine and get it to the elevator or granary at the earliest possible moment. This cannot always be done where farmers depend upon the regular thrashing outfit, which must come in rotation, and you are just as apt to be near the end of the list as the beginning. No matter how willing the owner of the outfit may be to please you, he must take each farm in order. This year it may be more important than usual to get the thrashing done early. There may be profit in thrashing early and marketing

the people has been on bound cane and alfalfa; on the cane, that it would handle anything like the quantity of it that it does, or even that it would handle it at all through the feeder, and on the quality of work it will do in alfalfa, as it simply gets it out of the straw and cleans it nicely. Some who have other years had a clover huller and this year have had a Belle City say it fully equals the regular clover machine."

John Vallance, Magda, Kans., to show what it will do under reasonable conditions and good seed crop, says that he will say that we thrashed for Bert Johnson, Emporia, when the weather was damp and much of the straw was wet, 488 bushels in 37 hours of steady work for which we received \$195. This was in 1901.



IN A KANSAS FIELD.

before the full flush of the grain movement. At least the farmer could be ready to do this in a moment were the grain ready, and should conditions warrant.

How can early thrashing be accomplished? By getting one of the small outfits now on the market and doing your own work. It may not pay for a small farmer to buy one for his own use exclusively, but several can unite and buy one to be used in common. Then, owners can do their own thrashing, and, if they have time, can get back part or all of the original cost by thrashing for neighbors. Machines of various size can be obtained.

M. G. Blackman of Hoxie, Kans., says: "I have made a friend for the little Belle City outfit every place I have thrashed. I think perhaps the greatest surprise to

After that we thrashed 24 bushels in one hour for another party whose name is Makenon.

The seed was sold just as it came from the machine without recleaning. You can guarantee it to do first-class work in alfalfa when the stuff is in good condition to thrash and when it is out of condition will do better work than any machine I ever saw. I remember thrashing three or four jobs which was in the sweat condition that renders all kinds of grain and seed tough, especially alfalfa. The pods close up and are hard to burst. We found that by running fast and feeding lighter we could take it out of the straw in that condition and clean it in good shape, a thing the huller man said could not be done.



DON'T MISS THE GRAND INTER-STATE BREEDERS' SALE

KANSAS CITY, MO.,

Next Thursday, June 8, at 1 p. m.

The Last Great Sale of the Season

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FIELD POST. Made where used. No freight charges. Simple of construction. Excels in beauty, convenience and strength. Costs little more than oak or locust, will last for all time. Renders universal satisfaction. Reliable men wanted who can work territory. Descriptive matter free. Address with stamp.
ZEIGLER BROS., Hutchinson, Kans.

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The "Dipping Proposition"—a book on the common ailments of animals and a Simple Remedy—with a sample of the remedy, Carbolic Dip, sent free. Sample will demonstrate that the Dip is a sure cure. Book will save you money. Prescott Chemical Co., 1894 Pearl St., Cleveland, O. (Distributing Depots at Kansas City and Chicago.)

LUMP JAW.

A positive and thorough cure easily accomplished. Latest scientific treatment, inexpensive and harmless. NO CURE, NO PAY. Our method fully explained on receipt of postal.
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NEW BOOK JUST ISSUED

SUCCESSFUL FRUIT CULTURE

A Practical Guide to the Cultivation and Propagation of Fruits.

By SAMUEL T. MAYNARD,
Formerly Professor of Horticulture at the Massachusetts Agricultural College.

This book is written from the standpoint of the practical fruit grower; it is up to date in every particular, and covers the entire practice of fruit culture. It gives in plain, practical language, descriptions of such varieties as are most in demand in our markets, and the methods practiced by the most successful cultivators of many sections of the country. Separate chapters are devoted to the apple, pear, peach, apricot and nectarine, plum, cherry, quince, mulberry, grape, blackberry, raspberry, cranberry, strawberry, blueberry, huckleberry, subtropical fruits, propagation of fruit trees and plants, fruit growing under glass, insect pests and fungous diseases. The chapter on the apple is particularly comprehensive and complete, forming a monograph in itself. The chapter on forcing peaches, grapes, strawberries, and other fruits, describes the most successful methods of the present day, and is the most recent practical treatise on this important industry.

Illustrated, 5x7 inches, 265 pages. Cloth. Price, postpaid, \$1.00.

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The Veterinarian

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the inquirer's postoffice, should be signed with his full name, and should be addressed to the Veterinary Department, Kansas Farmer, Topeka, Kans., or Dr. C. L. Barnes, Manhattan, Kans.

Glanders.

Glanders is one of the oldest diseases known; its contagiousness being recognized as long ago as the seventeenth century. Glanders is caused by a specific germ (*Bacillus mallei*), and affects horses, asses, and mules. The goat, cat and dog sometimes contract the disease from living in stables with glandered horses. Pigs may contract the disease by inoculation. Cattle and chickens are immune. The disease attacks the mucous membrane of the nose and may extend to the windpipe and lungs. When the lymphatic glands of the surface of the body are affected, the disease is known as farcy.

The germs are found in the discharges from the nose and the farcy buds. The disease is transmitted to other animals, including man, by inoculation through wounds or mucous membranes. There are also many additional ways in which animals may be affected, such as common drinking-troughs, feed-boxes, mangers, hitch-racks, harness, and any equipment used around an infected stable; also neck-yokes, shafts and poles used with glandered horses.

Symptoms.—Glanders may occur in the acute or chronic form, or it may attack the surface of the body in the form of farcy. The acute form of glanders begins with a chill, high fever, the mucous of the nose is at first hot and dry, and soon there is a watery discharge, which later becomes bloody. Nodules and ulcers form on the mucous membrane of the nose and discharge pus. There is also an abundant diarrhea and the urine contains a large body of albumen. The patients become very weak and rapidly lose flesh. Early in the attack of the disease the lymphatic glands of the lower jaw become swollen, forming nodules, and without any great amount of heat or tenderness and little disposition to form pus. If these glands have been swelled for some time there is a tendency for them to become attached to the jaw. In cases of acute glanders the general termination is death, which takes place in from three to fourteen days.

The first symptoms of acute glanders oftentimes are not easily recognized, owing to the absence of distinct symptoms in the first stages of the disease. The first noticeable sign of the disease is a watery discharge from one or both nostrils, which later on becomes sticky and of a yellowish-gray or yellowish-green colored pus mixed with some blood, coming from ulcers on the inside of the nose, and more particularly on the partition separating the nostrils. These ulcers are generally star-shaped and they may extend so deeply into the septum as to cause perforation. The swelling of the lymphatic glands along the lower jaw is even less sensitive than in acute glanders. These glands are hard, varying in size from a pea or bean to that of a small bird's egg, and have no tendency to break down into pus. When glanders affects the skin (farcy) one of the main symptoms may be the swelling of a joint and enlargement of the limb from lymphangitis, or nodules may form along the line of the lymphatics; these nodules vary in size from a pea to a hen's egg, and have a tendency to soften and discharge pus, after which they heal rapidly. New nodules may form, following the same course as the previous ones.

Manner in Which Glanders May Be Distinguished from Distemper.—In both these diseases there is a discharge from the nose; in distemper it is usually from both sides, while in glanders, as a rule, it is from one side

only. In glanders there are the characteristic ulcers formed in the nose, which, after healing, leave a star-shaped scar. In distemper there is a doughy swelling between the branches of the lower jaw, which is hot and painful and interferes with the swallowing, and causes the horse to carry his head forward. This swelling has a tendency to soften, break, and discharge pus, while in glanders the swelling along the lower jaw is painless and the swollen glands remain distinct and cord-like. Also, in testing with mallein the glandered horse has a large, painful swelling at the point of injection of the mallein, which will not occur in the animal with distemper.

Mallein Test.—Mallein is the sterilized product of a vigorous growth of the germ of glanders in bouillon. There are no germs in the mallein, but simply the toxin (poison) formed during the growth of the germs. The germs of glanders are constantly pouring their toxin into the patient's system. This toxin, being a poison, causes the glandered horse's temperature to rise a degree or even more above that of a healthy horse. In doubtful cases it is advisable to give the mallein test. The animal to be tested should have his temperature taken every two or three hours the day before the test; then inject beneath the skin one cubic centimeter of mallein. In the glandered horse the temperature begins to rise in from eight to ten hours and continues until the maximum is reached, in about sixteen hours, then gradually subsides, becoming normal in about thirty-six hours after the test is made. The healthy horse will not have any appreciable rise in temperature. The glandered animal has a large, painful swelling at the point of injecting the mallein, which remains for several hours. This characteristic, gradual rising and falling of the temperature, together with the other symptoms, prove beyond doubt the nature of the disease.

Prevention.—All glandered animals should be immediately destroyed, and not allowed to come in contact with healthy animals through stables, common drinking-troughs, harness, or any stable equipment. All suspicious animals should be isolated and cared for independently of healthy animals, until examined by a competent veterinarian. Infected buildings should be disinfected with 1-to-500 corrosive-sublimate solution, and a week later the process repeated. Then in two weeks after the second disinfection all wood-work should be whitewashed. All infected apparatus that can not be easily disinfected should be boiled for one hour. Forage and litter in infected stalls should be burned. Attendants caring for suspicious animals should exercise precaution against contracting the disease.

Glanders is practically an incurable disease; therefore it is not advisable to treat it.

C. L. BARNES.

The Successful Sheep Man Uses WONDERFUL ZENOLEUM.

He does not allow his sheep to become a prey to scab, lice, ticks, stomach worms, etc. He destroys the parasites and heals the wounds of his sheep for two reasons: First: It is profitable to him. Second: It is humane. He knows that securing sheep health and sheep comfort is the surest guarantee of his profit both in wool and in mutton. Good shepherds differ on the minor details of sheep raising, but on the one great point of how best to secure the health and profit of their sheep they are all agreed. They have found Zenoleum the infallible remedy through experiment. The great prize winners and the most successful feeders have passed the experimental stage. **Good Shepherds Everywhere Endorse Zenoleum. The Great Coal Tar Carbolic Dip and Disinfectant.** Its worth is now a matter of common knowledge. It comes not only from common experience, but the highest scientific authorities of the land have proved and proclaimed it.

Forty Agricultural Colleges Use And Endorse Zenoleum.

Wonderful Zenoleum "Coal Tar Disinfectant and Dip" The Great Promoter of Animal Health.

One gallon of ZENOLEUM will be sent you, express prepaid for \$1.50 and it will make 100 gallons of reliable disinfectant solution. Try it for the animal troubles and ailments that are worrying your stock: use it as a disinfectant, germicide and insecticide; for lice, mange, scurvy, ringworm, canker, scab; for removal of stomach and intestinal worms; to cure calf cholera, abortion of cattle, chicken cholera, scab in sheep, cattle mange or itch, etc. We are satisfied that if we can induce you to make the trial you will become more than enthusiastic about Zenoleum. In addition to every representation made above, Zenoleum is guaranteed to be non-poisonous—absolutely harmless for internal or external use. Neither injures skin, discolors wool or roughens the hair.

We ask you to take no chances. Read the Zenoleum guarantee. "If Zenoleum is not all we say it is—or even what you think it ought to be—you get your money back. No argument. Just Money."

Most all druggists handle Zenoleum—if yours won't supply you, we will. The prices of Zenoleum are: One gallon, \$1.50, express paid; two gallons, \$3.00, express paid; three gallons, \$4.50, express paid; and five gallons, \$6.25, freight paid. Send to us for booklets, "Veterinary Adviser," "Chicken Chat" and "Piggie's Troubles." Free.

ZENNER DISINFECTANT CO., 61 Bates Street, Detroit, Michigan.

Infectious Abortion in Cattle.

Abortion is the expulsion of the offspring from the womb before it is developed enough to live. Abortion may be due to bad food, and especially the feeding of hay that contains ergot, which is a diseased grain found on wild rye or similar grasses. A lack of sufficient food, injuries, disease, purgative medicines or other strong drugs may also cause abortion. Whenever abortion occurs among cows and can not be traced to the above causes, contagious abortion is to be suspected.

Contagious abortion is quite common and frequently causes serious losses among herds of breeding cows, not only from the loss of the young, but also because many animals that have aborted will fail to breed again.

Contagious abortion is caused by a germ or several germs, and the disease is transmitted from one animal to another by contact, or by means of the discharge from the vagina of an animal that has aborted, the after-birth, dead calf, etc. It also appears to be transmitted to healthy cows by a bull that has previously served a cow that has aborted. Infected food, water, stalls, trenches, posts, quarters, etc., may also be the means of spreading the disease.

Symptoms.—Cows may abort at any stage of pregnancy, but it usually occurs after the fourth month. There are few preliminary symptoms; the first thing usually noticed is that the cow has aborted, as shown by the presence of a foetal calf or the discharge of blood, mucus, etc., that soils the tail and adjacent parts. When contagious abortion occurs among a herd of cows, all animals with a discharge from the vagina should be regarded with suspicion as having probably aborted. In some cases the udder becomes distended, and the vulva is often swollen. When a cow is well along in pregnancy the signs of abortion are those of parturition.

Treatment.—When a cow has aborted, or shows signs of abortion, she should be isolated from all other pregnant cows, the aborted calf and membranes burned or buried deeply, and the quarters thoroughly disinfected by removing and burning all litter, and then applying to the floors, manger and stalls a 5-per-cent solution of carbolic acid in water, or a solution of one part of corrosive sublimate dissolved in one thousand parts of water. Tablets of corrosive sublimate can be purchased of druggists with directions for use. After disinfecting the stall it should be whitewashed. Cows that have aborted should be washed out with a solution of one part of corrosive sublimate dissolved in one thousand parts of water, or a 1 per cent solution of creolin once daily for two or three days and then once in three days until all discharge ceases. No cow should be bred for a month after all discharge has ceased.

Remedies that are given to pregnant cows to prevent abortion are, 30 drops of carbolic acid dissolved in a pint of

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Immune your pigs by feeding virus to the sow (costs 1 cent a pig) and have their barn cholera-proof. ONE MILLION successful tests. Indorsed by thousands of able veterinarians and scientists; satisfaction guaranteed in writing, backed by \$10,000 security. Agents wanted.

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PINK EYE CURE FOR HORSES AND CATTLE

Sure relief for Pink Eye, foreign irritating substances, clears the eyes of Horses and Cattle when quite milky. Sent prepaid for the price, \$1.

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water and given as a drench, once in three days. A small tablespoonful of hyposulfate of soda in the feed twice a week is thought to be good. Cleanliness, isolation and thorough disinfection must be depended upon to combat this disease. C. L. BARNES.

Ergotism.

Several complaints have come to the veterinary department of the college of a disease which has proven to be ergotism. Ergot is a fungus which forms on the heads of grasses and grains. The ergotized seeds are several times larger than the natural seeds, are hard, black, and slightly curved. Rye, blue-grass, oats and red-top may contain the ergot. This fungus is most commonly developed on rich soils in hot seasons, especially when considerable moisture is present.

Cattle are the most susceptible to the disease. When eaten, ergot produces a contraction and finally a closing of the blood vessels in the extremities of the body, limbs, tail, and ears—with the result that the parts below the line of obstruction die and later drop off. Pregnant cows may abort. It is not uncommon to see a steer or cow with but one toe on a foot, or the absence of the entire foot.

The first symptom of ergotism is a slight lameness in one or more limbs; later a dark line forms around the limb somewhere between the knee and hoof. This line deepens into a crack containing pus. This crack shows the line of separation between the dead and living tissues of the limb.

The affected animals should have a change of feed and then given a physic to get rid of any ergot in the intestines. Then give tannin in one-half dram doses twice daily for a few days to destroy the ergot not absorbed. To increase the circulation in the extremities chloral hydrate in one-half ounce doses, twice daily, is often beneficial. Affected parts should be bathed with water as hot as the animal can stand; after this apply disinfectants to the skin, such as Zenoleum (a teaspoonful to a quart of water). When the foot has started to come off, nothing can be done for an animal and it is best to put it out of its misery.

C. L. BARNES.

The Young Folks

CONDUCTED BY RUTH COWGILL.

Old Dinah's Cure.

What's de cuah foh trouble, honey!
Lord-a-massy don't I know!
Ain't I drive him from de doh-way
Forty hundred times or so.

Trouble got no use foh singin',
Makes him madder'n all git out;
When he hear de folks a laughin'
He won't never hang about.

When yoh heart gits big and heavy
An' yoh mouf gits hangin' down,
Dats de time to bust out laughin',
Cause old Trouble's lofin' roun'.

When you tink he gwine to catch yoh,
An' yoh got to cry some more,
Dats de time to sing de loudah,
Else he git yoh, sartain, shore.

—Geo. A. Tanton.

The Maid of Orleans.

It was away back in 1412 that a little girl child was born, who was to grow up into a heroic womanhood, and, many years later, be recognized as one of the most famous women of the world; for she was to save the life of her country, yet lose her own life for doing it. France was the name of her country and the child was Joan of Arc.

In those days France was not what it is now, a republic, with settled boundaries and laws, at peace with the world and itself. In the first place, it was continually at war with England, whose king kept claiming that he was rightfully the king of France as well; and he not only said this, but he purposed making his claim true by fighting and whipping the French so badly that they would be compelled to admit it, and let him reign over them. And the worst of it was that France had no real king of her own. The old king died and left his son uncrowned, and this same son, a gay and careless young man who was not overly brave or daring, I believe, was afraid to make the journey through his own realms to the place where the coronation always took place. So he remained in retirement in a castle with some of his nobles and courtiers and was as idle and gay as possible, though he was so poor, for a prince, and they often did not have all the things to eat and wear that were considered necessary in a court.

But we must go back now to the little maid about whom we were talking. She was a gentle girl, with a beautiful, serene face and kind and tender ways. She loved to go to church and to visit whoever was poor and ill and afflicted in her village or neighborhood; yet she was no idler, for her mother and father were poor people and every one in the family had to work very hard to keep the wolf from the door. She could not read nor write; (which was not so strange a thing in those days, as it would be now), but she knew a great deal about the Bible, and the heroic men and women it tells about.

Though Joan seemed like any other village girl, only perhaps better and stronger and more gentle, and seemed as simple and natural as any of them, yet, as she grew older, she began to know within herself that she was different. It seemed to her that there were voices which often talked to her alone, and sometimes she seemed to see visions of the Saints. These voices seemed to say to her that she must deliver France. They always told her to be good and noble and pure, to prepare for the great mission to which they were calling her. Nobody knows, to this day, what those voices were, nor where they came from, whether they were only the thoughts of her noble mind which sorrowed to see her beloved country so overcome by its enemies, and knew that something must happen to rescue it, or whether they really were as she firmly believed, mystical voices from God and the spirit world. But however that may be, she listened to them and loved them, and at last, when she was sixteen years of age, she resolved to obey them and deliver her country and have her king crowned. It seems

wonderful, does it not, that a girl so young and so unlearned and so inexperienced should have such a great love for her country and should be able to understand so keenly and so thoroughly what it all meant and what was needed. What it needed most of all was a great and unselfish leader. There was none such in all France, so she knew of no other way but to become that leader herself.

She had great difficulties in getting an audience with the king, for of course everybody thought she was mad. She was so earnest, and so determined, and withal so gentle and modest, that at last she was admitted to see Prince Charles. He was dressed in his royal finery and jewels, and the nobles about him were all proud and richly arrayed, and the castle was a palace very splendid and elegant; and Joan was a poor girl very young and very simple and very plain, except her noble face. But she thought nothing of all this, but only said, "I am Joan, the maid, sent by God to save France; give me soldiers that I may perform my mission."

The prince and his people hesitated a good deal in spite of her earnestness and magnificent faith in herself, and in spite of their own helplessness and weakness, too.

But at last they gave her what she asked, and she dressed herself in a soldier's armour, and armed herself only with a pure white banner embroidered with lilies—the flower of France—and a sword, and set out for Orleans which was being besieged by the English and was about to give way. It was not very long before the whole army of rough, hard soldiers believed in her and were willing to obey her commands. She struck no blow herself nor raised her hand against any one, but told them what to do, and then, in a very short time, cheered and encouraged them by her own fearlessness and spirit. The city of Orleans fell into her hands, and the English had to raise their siege, and leave the city to the people to whom it rightfully belonged.

Then, indeed, Joan was cheered and honored and worshipped, and no praise was too extravagant for her. But she cared nothing for any of this. She had yet one more duty. That was to give her country a king. So she persuaded the tardy prince Charles to follow her army to Rheims, the city where the sacred ceremony of coronation always took place; and there he was crowned, while she stood beside him, holding her white banner over him. Then, when the ceremony was over, she kneeled down at his feet, and said, with tears in her eyes, "Gracious king, now is fulfilled the pleasure of God." She felt that now the king and his army could finish driving out the English and bring the French back to peace and order. She felt that her mission was accomplished, and she wanted to go back to her quiet life in her humble home. For the voices had ceased to speak to her and urge her on, and it was they alone that she obeyed. But King Charles was not willing to lose his successful general and insisted that she continue to direct the army. She consented and did her best, but success did not always attend her now. She lost as often as she won. And at last was wounded and captured by the English.

There is a sad part to almost every story of a great and heroic soul. Now came the sad part of this noble life. The English hated her. They hated her because she had vanquished them when they were certain of success, they hated her because she was a woman and had outdone their famous war-trained generals; and they hated her because they believed she was a witch and in league with the devil, and that he had been her commander. So they took her over to England, and shut her up in a cruel prison and tried her and ill-treated her and insulted her, and at last found her guilty of heresy and burned her at the stake. The last thing she said was, "My voices, my voices!"

The saddest thing is not that she died at the hands of her enemies, but that her king and her countrymen, whom she loved enough to hazard her

life for them, had deserted her, and made no smallest attempt to rescue her or relieve her, nor even to clear her name of the charge of witchcraft which was a terrible crime in those days. She perished utterly alone and unbefriended, yet her serenity and her faith in God and his voice did not desert her. She was a heroine in every moment of her life, and as such the world recognizes her to-day.

For the Little Ones

The Doughnut Tree.

Oh! could I find the doughnut tree,
Whose fruit a sweet repast
Did oft in childhood's hungry hours
Assist to break a fast.

It grew upon the kitchen hearth.
Within a seething pot,
And bore its fruit at sundry times,
All rich and piping hot.

Fantastic shapes its fruit took off,
In twists, and curls, and toys,
And on especial days it dropped
Fat, podgy girls and boys.

With eager haste were quickly seized,
Those doughnut boys and girls,
Who found at once a guillotine
Between two rows of pearls.

The fruit, well shaken from the tree,
Was stored within a jar,
But youthful nostrils, quick and keen,
Did scent it from afar.

And to that place, what raids were made
Far into darkest night;
'Twas but a blissful dream—and then
The jar was empty quite.

Oh! could I find the doughnut tree,
And see it as of yore,
I'd seize upon its luscious fruit,
And be a child once more.
—Mrs. T. J. Greenleaf, in Good House-keeping.

The Egg-Rolling.

Betty was up with the sun on the morning after Easter, for was there not to be an egg-rolling on the White House lawn? and wasn't the White House where the President lived in Washington? In good season she was to be seen upon the busy street, holding a small brother by either hand, while they all trudged merrily toward the White House.

"There will be baskets and baskets full of colored eggs," said Betty; "and we art to roll them down the hill, and we can play upon the grass all day," she added.

"Walk and run on it?" asked Bobby, doubtfully.

"Walk and run and sit on it," said Betty, "and at ten o'clock the President will speak."

Now Betty had views of her own about the President. She thought that to see so great a man and to hear his voice would be enough glory for one little girl's whole lifetime. She turned her steps, into a narrow street that led by a shorter route to the White House. Pretty soon she felt Bobby pulling at her sleeve.

"See, sister," he said, "Hattie Brown is sitting at her window. She looks sorry because she can't go to the picnic."

Betty glanced toward the crippled child, who smiled feebly in answer to her greeting; then, still hurrying along, Betty had soon brought her brothers within sight of the pleasure grounds. A merry host of children were already there, and a bright picture they made, as they ran about, shouting, amid the flowers and fountains. The three newcomers climbed to the tip-top of the terrace, where they watched the gay scene below. It was only an hour before the President should appear. Betty sank upon the grass with a sigh of contentment. But as she listened to the music that seemed in its sweetness to bring out the beauty of earth and sky, she thought again of the face at the window.

She tried to forget, but it was of no use. After a while Betty could bear it no longer. Turning to her brothers she said firmly, "Now, Tom and Bobby, you must stay on this very step until I come back. I'm going after Hattie Brown."

"But," argued Tom, "the President will speak and you'll miss all the fun." "I can't help it," said Betty, and she looked steadily before her as she ran toward the widow's cottage.

It was almost enough reward to see

The Kansas State Agricultural College

A ten weeks' summer course in Domestic Science and Art for teachers will begin May 23, 1905. The regular spring term of the college begins March 28th. All of the common school branches are taught each term, and classes are formed in all of the first-year and nearly all of the second-year studies each term. Write for catalogue.

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May and June Excursions to the South

There will be cheap homeseekers' and settlers' tickets on sale to the South in the territory of the Southern Railway and Mobile & Ohio Railroad in May and June, and in other months this year. The May and June excursions will give you full opportunity to investigate the South during the gathering of early potatoes and many vegetable crops, of early peaches and other fruits, of grasses and grains, and will show the homeseeker what Southern farmers, and especially what Northern settlers in that section are doing. Fruit and truck raisers make \$50 to \$600 an acre. Lands which enable them to do it can be had at from \$3 to \$15 an acre. Go down and see if this is not true. Excursion dates are May 16 and June 6 and 20. Information about Southern farm locations furnished by

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Chicago.

Hattie's glad look when she knew that she might go after all.

"And you don't know half how lovely it is," said Betty, as she tucked Hattie into a small express cart and hastened away.

"Now, then," said Betty, when she had once more reached the hill, "how am I to get you to the top, I should like to know?" She was still looking at the long path when a gentleman with the kindest face she had ever seen came to her side and laid his hand upon her head. "What is it, my little maid?" he asked.

"I am wondering if I can pull Hattie up the hill," said Betty. "You see she is lame and—"

"I will help you," said the gentleman, and together they were soon going up the slope. Betty glanced up presently, asking with shy anxiety, "Can you tell me, sir, whether or not the President has spoken?"

"He has, my child; why do you wish to know?"

"Oh, I am so sorry," said Betty, and a tear twinkled against her lashes. "I went back for Hattie," she continued, "she couldn't come alone; but I did want to see the President."

They had reached the top of the hill, and the gentleman was looking at Betty with tender eyes.

"Little girl," he said, gently, "are you sorry you went back for Hattie?" "Oh, no!" cried Betty quickly, "she will like it so much, and I felt so miserable when I thought of her staying at home."

Her new friend smiled as he said: "There is enough joy in your unselfish act to repay all you have missed of this day's pleasure, and," he added gently, "it was the risen Lord who said, 'Even as you do it unto the least of these, you do it unto Me.'"

He had turned away, and Betty was met by the astonished faces of her brothers.

"Betty," cried Tom in breathless wonder, "do you know who helped you up the hill?"

"No," said Betty. She was still thinking of her friend's last words.

"Why, Betty," said Tom, swelling with pride, "why, Betty, that was the President!"—Selected.

When writing advertisers please mention this paper.

The Home Circle

CONDUCTED BY RUTH COWGILL.

Old Friends.

There are no days like the good old days—
The days when we were youthful!
When humankind were pure of mind,
And speech and deeds were truthful;
Before a love for sordid gold
Became man's ruling passion,
And before each dame and maid became
Slave to the tyrant fashion!

There are no girls like the good old girls—
Against the world I'd stake 'em!
As buxom and smart and clean of heart
As the Lord knew how to make 'em
They were rich in spirit and common
sense,
And piety all supportin';
They could bake and brew, and had
taught school, too,
And they made such likely courtin'!

There are no boys like the good old boys,
When we were boys together!
When the grass was sweet to the brown
bare feet
That dimpled the laughing heather;
When the pewee sung to the summer
dawn
Or the bee in the billowy clover,
Or down by the mill the whippoorwill
Echoed his night song over.

There is no love like the good old love—
The love that mother gave us!
We are old, old men, yet we pine again
For that precious grace—God save us!
So we dream and dream of the good old
times,
And our hearts grow tenderer, fonder,
As those dear old dreams bring soothing
gleams
Of heaven away off yonder.
—By the late Eugene Field.

A Good Name.

FLORENCE SHAW KELLOGG.

"A good name is rather to be chosen than great riches, and loving favor rather than silver and gold."

We turn the pages of the good Book over and over, yet find no truer words than these, and, in these days of giant crimes and defalcations, in the ceaseless hurry of the many for wealth and power at whatever cost, there are none we need to have more deeply and indelibly impressed upon our minds. They should be written there in letters of gold that the angel of memory may bring them back to us whenever we are tempted to do a wrong, be it ever so trifling. ~~Go where we may, there is nothing better than a good name and a reputation for sterling honesty in all things, neither is there anything that can add more to our happiness and prosperity.~~

With a spotless name and unstained honor we can never be poor, without this we must ever be so, though we may have all that money can buy. What is it worth, what can it profit us if these more precious things be lacking?

David Starr Jordan tells us, "The problem of life is not to make life easier, but to make men stronger"—not to amass wealth in money, in houses or lands, or any material thing, but to live deep and true and manly. To come to manhood pure and strong in the right, living bravely, kindly and helpfully in the sight of men and of angels, is to be truly rich whatever else may be lacking; and it is to this purpose we should give our first efforts—our best strength. These truths must have been stamped upon the minds of men very early in the history of the race, for not only in the Bible, but in many ancient writings we find them. Euripides, the eminent Greek, born 480 years before Christ, found that "It is a good thing to be rich and a good thing to be strong, but it is a better thing to be beloved of many friends"—as one surely will be who chooses the better part, and lives wisely and well.

All around we see both young and old, forgetting honor and all that should be most dear to them in their eagerness for wealth and the mad chase for power. Like the ignis fatuus the golden ore gleams and glitters before them leading them over bogs and morasses, so absorbed in their grasping desire they do not remember how deceptive it all is, or that it lures but to destroy. Wealth and power are good if rightly used, but they should never be counted life's greatest treasures. They are not the things to be first sought for or obtained. "For what shall it profit a man if he gain the whole world and

lose his own soul?" What will compensate him for the loss of the honor that should be dearer than life to each one of us? Rather let it be our first effort and our most ardent desire to obtain the good name that nothing but our own acts can take from us—the true riches of heart and character that will grow brighter and more satisfying as life goes on, and that is the best of all legacies to leave to those who come after us.

Though the purse be empty, let a man be a man and he can do much good and wield a mighty influence among his associates; an influence that must uplift and purify the moral atmosphere, as surely as the sunlight purifies the air we breathe. A Vanderbilt, a Rockefeller, and others of like wealth may have stately monuments of the mostly costly marble to mark the last resting place of the flesh, but what is this compared to the reverence and love with which we enshrine the name of the good man in our hearts and memories? What is it compared with the tears of love and sorrow that bedew the lowly graves of the good and true? Better the humble grave, marked only by the daisies planted by some loving hand, and the whispered, "He was pure and true, a Christ-like man," than the most favored spot in beautiful Greenwood with a towering monument, if that monument be raised to commemorate wealth that can not pass between the portals of earth-life. Better the warm hand-clasp of one who loves you and feels your worth as a man than much flattery and the deceitful fawning of the multitude who care for your gold alone. Better a lowly home paid for by honest toil and dedicated to love and truth than the most palatial mansion built by dishonest gain. Not that riches and goodness may not go hand in hand. They often do so; but if a choice must be made, let it be such as the watching angels will record with joy and gladness. Seek first and most earnestly for the riches that will not perish. Make straight paths for the feet and turn not aside for whatever allurements may offer—whatever hopes, that shine but to deceive, may tempt. Let manhood be the goal for which you strive and "be not overcome with evil," but looking to God for help and strength, press fearlessly, resolutely on. Riches may or may not come to you here. It matters little for they will come in greater, truer measure hereafter. Though your earthly path be not paved with gold, if you be good and true, love will plant her fairest blossoms along the way and you shall walk in the sunlight of peace; and when you have passed through the "archway crowned with hidden flowers"—as some one has beautifully designated death—you shall hear the Father's "Well done," and receive a glad welcome into the life everlasting. Oh! how that welcome will compensate for all the trials and discouragements borne here!

Some Hints on Strawberries for the Table and for Preserving.

(We have been asked to give some recipes for strawberries. The following we believe to be good:)

Dutch Cake with Strawberries:—Separate 2 eggs, beat the yolks, and add one cupful of milk. Sift 2 teaspoons of baking-powder with 1½ cups of flour. Add this to the milk and eggs, beat thoroughly and fold in the well beaten whites of the eggs; pour into a cake-pan and bake in one layer. Cover with strawberries, partly mashed, and serve with sugar and cream.

Strawberry Shortcake:—Make a nice biscuit dough as follows: One pint of flour, one heaping teaspoon baking-powder, one large desert spoonful of shortening, and enough milk to make a dough. Stir quickly and do not knead or handle more than is absolutely necessary. Put into a pie-pan and pat into a layer about one inch thick. Bake till a delicate brown. Take from the oven and cut off the top with a sharp knife. Mash strawberries with sugar and put into the split layer. Serve with cream and sugar.

Oranged Strawberries:—Place a layer of strawberries in a deep dish;

cover the same thickly with pulverized sugar; then a layer of berries and so on, until all are used. Pour over them orange juice in the proportion of three oranges to a quart of berries. Let stand for an hour, and just before serving sprinkle with pounded ice.

Preserving Strawberries:—Two tea-cups of sugar to three of berries; put sugar into a pan with enough water to moisten and boil to a good thick syrup. The berries must be whole and good; drop the berries into the boiling syrup; let cook until done (not more than 20 minutes), then can.

Strawberry Jam:—Hull the berries and put them over the fire, and boil gently for half an hour, keeping them constantly stirred; allow ¾ pounds of sugar to one pound of fruit; remove berries from the fire, add the sugar and then boil them again a half hour. Put in jars.

Strawberry Preserves:—Select the largest berries and use equal weights of strawberries and sugar; lay the fruit in deep dishes and sprinkle one half the sugar over them in fine powder; shake the dish so that the sugar may touch the under part of the fruit. Next day make a syrup of the remainder of the sugar and the juice drawn from the strawberries and boil until it jellies; then put in the strawberries carefully and let them simmer nearly an hour. Put them carefully in glass jars and fill up with the syrup; there will be more than enough to fill up the jars, but after standing over night the jars will hold more. Any syrup remaining can be used in making pudding-sauces, etc.

Canning Strawberries I:—To preserve the color and flavor of strawberries requires care. They should go directly from the field or garden to the kettle—even washing them injures their keeping-qualities. Use one-half pound of sugar to one pound of fruit, place alternate layers of sugar and berries in a preserving kettle and let stand one hour, then heat slowly just to the boiling point; fill into jars and seal hot.

Canned Strawberries II:—For every quart of fresh strawberries take one cupful of white sugar; add a tablespoon or two of water to the berries if there is no juice in the bottom, to prevent burning before the heat brings out the juice. As soon as the fruit boils, add the sugar, and stir gently for a few minutes until it boils up again, and can immediately.

Unique Decorative Furnishing for a Boy's Room.

MARIE IRISH.

The following description of one woman's planning may prove suggestive to others in fixing up a boy's room. The floor covering is of a red and brown oil-cloth, a satisfactory carpet for a boy's room, as it is easily kept clean. The home-made window seat, of generous width and four feet long,

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with a hinged cover that it may be used for holding clothes, is upholstered with dark red denim, as is also the top of the shoe-box. The latter is high enough to be used for a low seat as well as a footstool.

The dresser and commode scarfs, the bedspread and the window-curtains are of white.

Now comes the unique part—bandanna handkerchiefs—lots of them; and you don't know, unless you have seen such a room, how pretty they look.

The pillow-shams are of two bandanna squares (such as sell by the yard and are a yard wide) lined with dark red cambric. Two more squares of like pattern were draped above the window curtains. Two others were used as curtains for the book-shelves, while still another was utilized as a splashier, being fulled onto the rod with a heading at the top.

The several cushions of various size were covered with bandannas, two handkerchiefs of different patterns but harmonizing colors being used for each cushion. Two were finished plain, one had a double ruffle of red and another a black ruffle feather-stitched with red. Several handkerchiefs were made into fancy bags, one was used as a handkerchief case and two engravings were framed with bandanna mats.

Such decorations are inexpensive, are easily laundered and are pleasing to boyish hearts.

Best Results.

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Club Department

OFFICERS OF THE STATE FEDERATION OF WOMEN'S CLUBS.

President.....Mrs. May Belleville Brown, Salina
Vice-President.....Mrs. L. H. Wishard, Iola
Cor. Secretary.....Mrs. N. I. McDowell, Salina
Rec. Secretary.....Mrs. W. D. Atkinson, Parsons
Treasurer.....Mrs. H. B. Asher, Lawrence
Auditor.....Mrs. Grace L. Snyder, Cawker City

Our Club Roll.

Mutual Improvement Club, Carbondale, Osage County (1896).
Give and Get Good Club, Berryton, Shawnee County (1902).
Women's Literary Club, Osborne, Osborne County (1902).
Women's Club, Logan, Phillips County (1902).
Domestic Science Club, Osage County (1902).
Ladies' Crescent Club, Tully, Rawlins County (1902).
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1898).
Chalisco Club, Highland Park, Shawnee County (1902).
Cultus Club, Phillipsburg, Phillips County (1902).
Literature Club, Ford, Ford County (1902).
Seaborn Club, Mission Center, Shawnee County, Route 2, (1899).
Star Valley Women's Club, Iola, Allen County (1902).
West Side Forestry Club, Topeka, Shawnee County, Route 8, (1902).
Fortnight Club, Grant Township, Reno County (1902).
Progressive Society, Rosalia, Butler County (1902).
Pleasant Hour Club, Wakarusa Township, Douglas County (1899).
The Lady Farmers' Institute, Marysville, Marshall County (1902).
Women's Country Club, Anthony, Harper County (1902).
Taka Embroidery Club, Madison, Greenwood County (1902).
Mutual Improvement Club, Vermillion, Marshall County (1902).
Frontier Reading Club, Cawker City, Mitchell County (1902).
Cosmos Club, Russell, Kans.

[All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.]

PROGRAM OF FAMOUS WOMEN.

Joan of Arc.

Roll-call—Facts about France and her people.

- I. France in 1429.
- II. The Maid of Orleans.
- III. The English conception of Joan of Arc as evidenced in Shakespeare's Henry VI.
- IV. The quality of heroism in women.

One of the purposes of this outline of programs of famous women of the world has been to make it so general that it would bring us into acquaintance with the world at many different places and times, so that at the end of the year, the club may feel that its knowledge of history is much wider than before. The roll-call responses will be suggestive, so that each member may be prepared with something to add to the general fund of information. For the first program, we have Joan of Arc, the heroic Maid of France. Therefore the responses to roll-call will be simply bits of fact or gossip about that country and its people.

To understand clearly the mission of Joan of Arc and her career, we must know something of the troublous conditions which made some extraordinary leadership necessary. The first paper will sketch briefly but fully that most interesting period of civil turmoil and foreign aggression, with its incapable leadership and ambitious foes.

The second paper will be the main topic of the afternoon. It should consist of a sketch of the Maid's character and mission, her brief life and martyr's death.

The English naturally had no great affection for this Maid who vanquished them, and their conception of her is far from sympathetic. It is very well shown in Shakespeare's play of Henry VI, part 1, where Joan appears under the title of La Pucelle, as an evil, ugly woman who gets an inspiration from the devil and his friends.

The last topic may be a general discussion of the other numbers of the program, having for its thought, the quality of historical heroism in women.

At this superlatively busy time of the year, we can expect to hear little directly from our clubs. Yet if some member chose to write telling me some gossip of the work, or difficulties, or sending me a year-book the surprise would be a very agreeable one.

I hope at least one member of every club will subscribe for the new club magazine, "The Club Member." It is edited and published by Mrs. Margaret Hill McCarter, whom most of the readers of the KANSAS FARMER know

through her pen. It is only ten cents a year and comes monthly. It contains many things that are useful and interesting to all women, especially club members, and no club can afford to be without it.

THE INTERNATIONAL SUNDAY-SCHOOL LESSON.

(Copyright, Davis W. Clark.)

Second Quarter. Lesson X. John 20:11-23. June 4, 1905.

The Resurrection.

The record is charmingly natural when it describes the errand of the women to the sepulcher. They run with additional spices to complete the embalment, desisted from because of the approach of the Sabbath. They start precipitately, forgetting to take some one with them strong enough to roll away the stone for them. They well reflect in their action the mental state of all the disciples. It is improbable that they had forgotten the saying of Jesus about rising the third day; but it is evident they did not attach a literal signification to His words. Their ingenuousness is incontestable. The resurrection was as complete a surprise to them as to their enemies. The very spices in their hands were evidence of their honesty. Their sorrowing suspicion of a theft of the body proved them no party to such a robbery.

That garden near Calvary witnessed the most remarkable guard-relieving of history. Four Roman soldiers, inured to all common causes of alarm, quaked like old earth herself, and swooned away, and with returning consciousness probably fled into the city, leaving their spears and shields upon the ground. Angels mounted guard in their stead. One of them probably outshone His fellows. The snowy luster of His raiment matched well His immaculate nature. The glory of His appearance was like an electric coruscation.

Among the holy women conspicuous at the cross and the grave, Mary Magdalene stands easily first. By some pitiful blunder, she has been confused, in art and Christian literature, with "the woman who was a sinner," so that her very name is used to describe a class of social outcasts. There is absolutely no evidence of this. About all we know of her is that she was from Magdala, on the southwestern coast of the Sea of Galilee. It has been said that there is reason to suppose that Mary Magdalene was in less humble circumstances than most of our Lord's disciples. He had set her free from some terrible mental or physical malady, and she gave Him the holy love of a warm and generous nature.

She, with greater fervor perhaps than the others, started earlier (while it was yet dark) on the errand to the tomb. What was in her heart was richer than what was in her hand.

The description of Mary's recognition of Jesus is one of the most unique and skillful things in literature. Much in little! "Jesus saith unto her, Mary!" She turned herself, and saith unto Him, "My Master."

An entirely unnecessary mystical meaning has been attached to Jesus words, "Touch me not!" Paraphrased, they might be read: "Don't cling to me now; there will be opportunity for you to express your affection in the future, for I have not yet left the world. Hurry to My brethren, and tell."

The final scene of the first Easter Sunday is an interior one. It is perhaps in that very upper room in which Jesus ate the Last Supper with His disciples. The shepherdless sheep are cowering behind closed doors. They are afraid of eavesdroppers or even a violent assault of their enemies. "Peace!" What a word to be spoken to such a company at such a time and by such a Person! The "breathing" of Jesus upon His disciples was a symbolical act. It is as if He was instituting a new sacrament, for He says to them just as he did when he handed them the bread and the cup, "Take the Holy Spirit."

The Teacher's Lantern.

The Oriental manner of burial is interesting; the winding-sheet and napkin; embalment; rock-hewn



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chamber: loculi, like steamship berths, in which bodies were laid. Stone for door, sometimes shaped like a millstone and set in groove, so as to be rolled and held in position by a smaller stone like a chuck under a wheel.

The love, faith, fidelity of womanhood is transfigured in the resurrection scene.

A special authority to "remit and retain" was not given to the apostles in the language, "Whosoever sins ye forgive," etc. It is as if Jesus had said, "You are going out to preach the terms of forgiveness; viz., repentance and faith. If men meet the conditions they will be forgiven. If they do not, their sins will stand against them." Any other interpretation would give a mechanical and arbitrary power of a privileged class over their fellows.

The Apiary

Conducted by A. H. Duff, Larned, Kans., to whom all inquiries concerning this department should be addressed.

Bees at the Well.

EDITOR KANSAS FARMER:—We are greatly annoyed on our farm by bees at the well and watering troughs. They seem to come from a distance as no one near keeps them. Is there any way to get rid of them? If you can tell me through the pages of the KANSAS FARMER I will be greatly obliged.

Jackson County. MRS. JONES.

The bees that visit your well and watering troughs go there for water only and will not sting unless tramped on or caught, as bees, when at any considerable distance from their hives, never attack people or domestic animals; so they are not at all likely to do any real harm. But water must be very scarce where they are situated, or they are not very far from your home. You can get the course they take and follow them to their home, and if not owned by any one near, they must be in a tree or a building, and can be taken out and put into a hive and set to work. Or, they can be entirely broken up. Leave no vessels of any kind about your well for them to visit.

I keep quite a number of colonies, and have a tub with excelsior and water in it for the bees. They visit it in large numbers, but do not visit the well except occasionally.

G. BOHRER.

The Kansas Foul Brood Law.

In behalf of the members of the State Beekeepers' Association, of Kansas, as well as the beekeepers of the State in general, I wish to tender to Governor Hoch by most sincere thanks for having approved of the foul-brood law, passed by the last Legislature.

While the law nullifies itself in quite a number of counties, it will prove to be of value where bees are most numerous. It requires twenty-five beekeepers in any county to petition the county commissioners to appoint a county inspector of apiaries, whose duty it shall be to rid any apiaries of foul brood, or destroy the bees infected with said disease. If a county has a less number of beekeepers than twenty-five, there is no way of ridding such a county of the ailment, as a less number of petitioners than twenty-five cannot secure the appointment of an inspector. This was most certainly

an oversight on the part of the Legislature. Another defect in the law is the section that provides \$2 a day only to pay the county inspector for his services. As a rule, it will be very difficult to find a person competent to diagnose foul-brood, prescribe and apply a proper remedy for the cure of this most destructive ailment. The pay should be raised to at least \$3 per day and all other necessary expenses, and not provide pay for more than two days for the inspection of any one apiary, except that more than one visit be required in order to effectually dispose of the disease.

We have about 100,000 colonies of bees in the State, and at the low estimate of 20 pounds of a yield of honey per colony, it will amount to 2,000,000 pounds of honey, which, at the low estimate of ten cents per pound, will amount to \$200,000. While an average colony will not yield over 20 pounds of surplus honey, very many will yield over 100 pounds, so that the average yield may very safely be put at not less than 20 pounds per each colony. Added to this a constant increase of interest in beekeeping, as it is now generally accepted as a fact that Kansas in the near future will stand in the front rank, a country adapted to bee culture. The alfalfa plant is being cultivated more extensively each year, and so far has proved to be an abundant honey-yielding plant. To this it is also proper to add the ever-increasing fruit blossoms in every part of the State.

A law to prevent the spread and harboring of foul-brood among bees is quite as important as is a law to prevent the harboring and spread of glanders among horses, cholera among swine, or Texas fever among cattle. It is to be hoped that when our Legislature meets again, the beekeepers of the State will adopt some means by which the wants of the beekeeping interests of the State will be laid before that body in a shape to make plain to them the actual necessity of protection by statutory provision. There is no industry engaged in by civilized people that is so imperfectly understood as are the habits, care and skill required to make beekeeping, and the yield of honey (our most wholesome sweet), a success as well as a source of income and profit. Many persons in feeble health, and many women are making beekeeping a source of income.

Having been chosen twice as President of the Kansas State Beekeepers Association, I feel it a duty to make the foregoing statements.

G. BOHRER.

A Big California Ranch to be Divided.

A syndicate of Spokane and San Francisco men have purchased the big Los Molinos Ranch of which 40,000 acres will be subdivided into ten-, twenty-, and forty-acre lots and offered for sale. This splendid tract of land is situated near Red Bluff, California, and it will be turned into orange, lemon and grape-fruit orchards, for all these semi-tropical fruits thrive wonderfully there. Strange to say, such lands as these are the very best in the State as they were selections of the cream of California, made under the old Spanish land grants of an early day and have been kept intact as big wheat farms since the early settlement of the State. Where now waves thousands of acres of wheat will soon be orchards of orange, lemon, olive, almond, peach, and pear.

C. L. Stewart, Wellington, Kans., has a fine list of farms suitable for wheat, alfalfa or any other crop that grows in Southern Kansas. His specialty is wheat, alfalfa and tame-grass land. Notice his advertisement on page 589, and drop him a card for information.

The Challenge Windmill & Feedmill Company, of Batavia, Ill., have recently changed their corporate name to Challenge Company. We feel that they are to be congratulated on this change.

AMUSEMENTS.

(Continued from page 571)

nection to has said: "Any diversion of the mind from the cares of business life has a remedial value. There is as yet no school of medicine based upon the principle. Any amusement or pastime which will divert the mind is recognized by all physicians as a help in the treatment of their patients. Diversions of all kinds exert a preventive as well as a curative influence."

If, therefore, it is beneficial to health to have these diversions, may we not surmise that to cut them off and to ask people, especially young people, to substitute solemn thoughts and benevolent actions for amusements, might be comparable to cutting off the elephant's trunk and asking him to eat like a civilized man or at least like a monkey! Possibly a skillful breeder who should live long enough might, after breeding a thousand generations of elephants, produce a strain with shortened noses and with dextrous front feet and a disposition to sit at the table and eat bread and honey and to tip the waiter and do other things which would strike the present generation of elephants as solemn or as ridiculous nonsense. So, too, it is conceivable that a reformed generation of people may, in the dim and distant future, inhabit the earth, and that these people can give over all amusements without detriment to old or young. But such generation is not living in this year 1905.

But, nobody is seriously advocating the elimination of amusements. If there were any such, they would be cured of their malady by bringing a family or eight or nine girls and boys through the ages of infancy and childhood. All of the real objections raised to amusements are against their excessive use and against harmful or wrongful indulgences wrongly called amusements.

Since, then, amusements are not to be abolished; since we can not, with probable safety to young America, abolish the reminders of war on the Fourth of July; since people are made healthier, stronger, more capable of usefulness and happiness by occasional play spells, the sensible course is to provide amusements without objectionable features. So thoroughly grounded in this belief is the writer that for over a third of a century he has not failed to shoot fire-crackers with the boys, to advise them as to the management of their improvised cannons, to send up skyrockets, etc., on the Fourth of July. And, good friends, there is lots of enjoyment in it, renewal of power and disposition to work hard, to think vigorously, to contemplate seriously.

The observance of the Fourth of July doubtless needs careful attention, and the ardor of youth in its celebration needs proper direction. Other amusements need, not abolishing but development along right lines and within due bounds. They should be taken, not as the regular business of life, even if one have leisure, but as tonics, as elixirs of life, as cures for the ills that flesh is heir to.

THE NATIONAL GOOD ROADS ASSOCIATION.

At Portland, Ore., on June 21-24, 1905, will be held the fifth annual convention of the National Good Roads Association. This meeting will be held in the Auditorium of the Lewis and Clark Centennial Exposition and will, in many respects, exceed in interest and importance any previous meeting of the kind ever held.

An object-lesson road will be built on the exposition grounds as a special exhibit.

Saturday, June 24, will be Good-Roads Day, and will be observed by a special program. All commercial, agricultural, industrial, transportation, development, civic improvement, educational and religious organizations are requested to appoint at least five delegates each to attend this meeting. This is the first great National Convention that has been called to meet on the Pacific coast, and it is to be hoped that the attendance will be large. Indeed, the importance of the meeting, together with the low railroad rates

and the attraction of the Lewis and Clark Centennial, and of the Pacific coast generally at that season of the year, will almost insure a great gathering of people at Portland during the week beginning June 21, 1905.

THE AMERICAN FORESTRY ASSOCIATION.

The following letter to Mr. Geo. W. Tincher, of Topeka, presents a matter of interest to all Kansans:

Washington, D. C., May 12, 1905.
Mr. George W. Tincher, Topeka, Kan.
My Dear Sir: We are extremely desirous of increasing the membership of the American Forestry Association throughout the United States. In certain of the States our membership is pretty well developed, but in a number it is far below what it should be. One of these latter states is Kansas, where we have only fifteen members, the names and address of which I am inclosing you herewith.

Kansas is a large State, and it seems to us that with the interest in the subject of forestry that is everywhere prevalent, we should be able to secure at least one hundred new members before the end of the present year. We appreciate the interest you have taken in the association and its interests in the past, and in the vigorous campaign we are now prosecuting, both to increase the influence as well as membership of the association, we naturally turn first to our vice-presidents throughout the country to help us with suggestions as well as work among their fellow citizens. What can we do to cooperate with you in securing this desired increase in membership?

I would be glad to hear from you at your early convenience with suggestions as to how we can increase the interest in forestry and in the association in Kansas. Very truly yours,
H. M. SUTER, Secretary.

Following is the list of Kansas members of the American Forestry Association: Geo. M. Bradley, Goodland; S. A. Bullard, Garden City; C. E. Durand, Hutchinson; F. H. Evans, Garden City; E. O. Faulkner, manager Tie & Timber Department A. T. & S. F. Ry., Topeka; W. W. Hall, Anthony; Mrs. Catherine A. Hoffman, Enterprise; Howell Jones, Topeka; W. D. Rippey, Severance; W. G. Russell, Russell; J. H. Skinner, North Topeka; C. O. Sparks, Fay; Geo. W. Tincher, 1308 Tyler St., Topeka; Miss L. L. Williams, care of Capt. Adams, Fort Riley; L. W. Yaggy, Hutchinson.

Membership of the American Forestry Association should be increased to at least 100 during the coming year. Kansas is not only a large State, but it is a productive State with only a very small portion of its area timbered. The benefit the State will receive during the next 20 years from the American Forestry Association will perhaps be as great as any State in the Union. Surely our people will be loyal enough to give proper representation to so worthy an object. Many people will ask what will it pay me, and what will I get from the investment of \$2 per year as dues for membership? Every member receives a copy of "Forestry and Irrigation," the official publication of the association, together with all the publications of the Bureau of Forestry. Each member will help to represent the State in protecting one of the noblest works of God by aiding in a small way in preserving our old and establishing new forests in a great prairie State.

Forestry work in Kansas has not produced the results that were expected when our present law was enacted some 20 years ago. The expense to the State during these years has been about \$85,000. From the one important fact that our State law is in the hands of the politicians, the work has been almost a total failure. The American Forestry Association is under an entirely different management. The unselfish devotion of its officers and members will lead to the enactment of proper laws in the various States for the betterment of all forest conditions.

Among the list of Kansas men who are members of the association, the names of L. W. Yaggy, of Hutchinson,

and George W. Tincher, of Topeka, are prominent. They have been actively engaged in forest work for the last 20 years. They have probably done more good to the State than the expenditure of the \$85,000 of the people's money in maintaining the State Forestry Stations for political purposes.

Mr. Yaggy has the ideal timber plantation of the West which was established as a financial investment. The history of the place is evidence that Mr. Yaggy used good sound business judgment in starting the forest. Mr. Tincher has a smaller forest plantation, and has been a regular contributor to the KANSAS FARMER for many years. He has been doing forest work so long that many rely on his advice and judgment. You will always find him using his energy and influence to improve forest conditions in the State. The KANSAS FARMER urges every one who may be interested in forestry to correspond with Mr. H. M. Suter, Secretary of the American Forestry Association, Washington, D. C., who will be glad to answer questions and furnish any other information that may be desired.

ANNUAL MEETING KANSAS AUCTIONEERS.

The next annual meeting of the Kansas auctioneers will be held at Manhattan on June 5 and 6, 1905. L. S. Kent, State Secretary, Hutchinson, Kansas, urgently requests that there be a big turnout at the State meeting at Manhattan and hopes for a strong representation at the international convention to be held in Chicago.

He writes the KANSAS FARMER as follows:

"The election of officers and discussion of some very interesting and instructive topics of interest to the profession makes this meeting promise to be a very interesting one. Come and lend your help to make it a good one. I will say for the benefit of those that are going to the International Auctioneers' Convention to be held in Chicago on June 13, 14, 15, 1905, that the most of the Kansas auctioneers that will attend this meeting will meet in Kansas City, Mo., on June 12 and leave there at 6:30 p. m. over the Rock Island on train No. 12. Parties who are going to the Chicago meeting and cannot attend the State meeting if they will write me, I will notify them should any arrangements otherwise than those mentioned be made at our meeting at Manhattan."

BLOCKS OF TWO.

The regular subscription price of the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to receive the paper at half price. While the subscription price will remain at one dollar per year, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year and one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

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der will show the amount necessary to add for each additional paper wanted. If your subscription is already paid in advance you can send the KANSAS FARMER to some other address. In taking advantage of our Special Club List it is not necessary that all papers should go to one address; they may be sent to any address you name.

If other periodicals are wanted that are not named here, write for what you want, as we have the lowest clubbing rates with all publications. Address all orders to Kansas Farmer Company, Topeka, Kans.

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Topeka Journal, 1 year.....	3.60	3.75
Topeka Herald, 1 year.....	3.60	3.75

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Kansas City Journal, 1 year.. .25		1.15
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Good Housekeeping, 1 year....	1.00	1.75
The Outlook, 1 year.....	3.00	3.75

Commencement Week, 1905, at the Kansas Agricultural College.

Friday, June 9.—Societies' Commencement Lecture to Invited Guests, College Auditorium, 8 p. m., Dr. Montaville Flowers, President Flowers' Academy of Speech and Dramatic Art, Cincinnati.

Sunday, June 11.—Baccalaureate Sermon, College Auditorium, 4 p. m., Rev. T. H. McMichael, President Monmouth College, Monmouth, Ill.

Monday, June 12.—Recital by Music Department, College Auditorium, 8 p. m.
Tuesday, June 13.—Examinations from 8:30 a. m. to 2:40 p. m. Class-Day Exercises to Invited Guests, College Auditorium, 8 p. m.

Wednesday, June 14.—Examinations from 8:30 to 11:50 a. m. Reunion Literary Societies, 1:30 p. m. Business meeting Alumni Association, 3:30 p. m. Reunion of classes, 4:30 p. m. Triennial Alumni Address, College Auditorium, 8 p. m., Prof. F. A. Waugh, Amherst, Mass.

Thursday, June 15.—Annual Address, College Auditorium, 10 a. m., by Governor Hoch. Presentation of Diplomas. Cadet Band Concert, on Campus, 2 p. m. Military Drill, 3 p. m. Triennial Alumni Banquet, Women's Gymnasium, 7 p. m.

When Goethe says in every human condition foes lie in wait for us, "Invincible only by cheerfulness and equanimity," he does not mean that we can at all time be really cheerful, or at a moment's notice, but that the endeavor to look at the better side of things will produce the habit, and that habit is the surest safeguard against the danger of sudden evils.—Leigh Hunt.

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One-third cash balance in equal annual installments for five years with interest at 6 per cent on deferred payments.

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These lands are convenient to railroad, rolling surface, deep, rich loam on clay subsoil, good water at 30 to 40 feet deep. Adjoining lands produced last year 20 to 25 bushels of wheat per acre which sold for \$1.05. These lands are highly recommended for vegetable and fruit-growing.

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Inland Empire Colonizing Company

Beecher & Beecher, Gen. Agts., Belleville, Kans.

Belleville, Kans., May 10, 1905.—This is to certify that we are personally acquainted with Beecher & Beecher and know them to be honest, reliable men who can be depended upon to carry out any agreement into which they may enter.

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Mild climate, fertile soil, pure water, fine markets, good railroad facilities. We can furnish you IRRIGATED LANDS with PERPETUAL WATER RIGHT and interest in the canal works. No annual water rental—the water right goes with the land and an adequate supply is assured under supervision of the State. THESE LANDS AT \$10.50 PER ACRE. We can furnish you improved irrigated lands, fenced, or seeded to alfalfa, or set to fruit, or COMPLETE RANCHES AT \$15 TO \$50 PER ACRE, according to the improvements. All these lands on easy payments.

WE HAVE SEVERAL THOUSAND ACRES OF THESE LANDS

But they are going like hot cakes in the Klondike and will not last long at these prices. We will take out a party of our customers at SPECIAL EXCURSION RATES JUNE 20, 1905, and suggest this plan to those who are interested:

THE BEST WAY TO DO

Form a party among your friends who want land and send one man to select and close the deals for the party. This will reduce the expenses of the party. Not more than 160 acres of our lands at Bliss, Idaho, will be sold to one man. The improved lands at Payette, Idaho, and in Mather, Oregon, can be sold in any quantity. Make your application and remit 50 cents per acre advance payment. We will send you our receipt for the amount and this receipt will be accepted as cash when you make your first regular payment at the company's offices there. In arranging for an excursion of this kind, livery, etc., it is only fair that we have some guarantee that the men of our party really intend to buy land and are not taking advantage of us to make a pleasure trip or a trip on other business. This is not an additional cost to you but is simply your guarantee of good faith. We fill all applications as fast as received and the man who holds our receipt number 1 will get first choice of these lands, the man who holds our receipt number 2 will get second choice, and so on in order so long as the land lasts, but every man who holds our receipt will get good land as described above. Should the supply become exhausted (which is not likely) we will promptly notify applicants and return their money.

YOUNG MAN, THIS IS YOUR CHANCE!

Get a piece of this land, start small and grow. Such chances as this are getting more rare every day and land will never be so cheap again. Why pay \$40 per acre for a farm and then take chances on getting a crop when one-third of that sum will buy a farm where RETURNS ARE SURE? There is nothing mysterious about irrigation. Any man who knows that a crop can be damaged by too much water as well as by too little can learn to irrigate successfully. No more special training is required than in running a self-binder or a hay press. Send for free circular giving full details and descriptions.

Inland Empire Colonizing Company

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Miscellany

Spurious Substitutes for Alfalfa.

EDITOR KANSAS FARMER:—It is necessary to call the attention of the farmers of the State to the fact that it is requisite to use extreme caution at the present time in the purchase of alfalfa seed. Letters are coming into the Botanical Department, from all over the State, enclosing for identification, plants which represent in whole or in part, the outcome of last fall's sowing of alfalfa, and which is not alfalfa at all. Whether consciously or through accident or carelessness—it is impossible at present to state—a number of seed concerns through the West have been selling as alfalfa seed, seed of a closely related plant of another species. This latter is sometime known as yellow and sometimes as black alfalfa, also as hop clover. True alfalfa—known scientifically as *Medicago sativa*—is one of about fifty species native to Central and Southern Europe, Central and Farther Asia, North Africa and the Cape of Good Hope. Of all of these, but two have come into anything like general cultivation, *Medicago sativa*, the common alfalfa, and *Medicago media*, the sand alfalfa. Of the wild species, three have escaped into this country, all of them being yellow-flowered plants, smaller in growth and habit than alfalfa proper, and what is more important, all three of them are annuals, which necessarily, even though other things were equal, would render them less desirable as forage plants than *Medicago sativa*. The most important of these three, and the one which has been coming to my hands in greatest numbers of late, is *Medicago lupulina*, the black alfalfa or hop clover mentioned above. This plant, where it grows wild, is frequently utilized as a forage plant, and is considered of value. Indeed, there may be cases where it may have some

special value in cultivation, where an annual legume cover-crop is desired that can also be used for pasture purposes. In general, however, it is distinctly inferior to alfalfa, and should never be substituted for it, consciously or unconsciously, by any firm of seedsmen. My advice to the farmers having fields of this plant would be to utilize it for pasture purposes this season, and for hay where practicable, but to plow up in August, and replant to the true alfalfa. If farmers will take the trouble to send sample packets of alfalfa seed that they propose buying or have bought, addressed to the Botanical Department, Kansas Experiment Station, the seed will be analyzed and a report given, free of charge. In addition to the hop clover, which seems to be the principle adulterant now at large in the alfalfa seed of this State, there is also more or less of the white sweet clover, which is by way of becoming a pest and a nuisance, and which should be rigidly eradicated.

With regard to the seedsmen, it should be stated in general that the seed firms doing a wholesale business, in general have too much at stake to afford to send out unreliable seed intentionally, and it is the writer's belief that the fraudulent adulteration of commercial seed is a comparatively rare practice with them. Since, however, most of the seed concerns buy their seed from growers and do not raise it themselves, they are in a position to be deceived through the ignorance, carelessness or fraudulent intent of persons who raise the bulk seed and sell it to them. In fairness it should be stated that several prominent seed firms make it a practice to send in their seed for analysis, thus showing a disposition to protect their customers. We have about reached the point in this State, in the writer's judgment, where we need a seed-control law, based on the practice now current in the principal European countries. H. F. ROBERTS, Botanical Department, Kansas Experiment Station, May 26, 1905.

Road Overseers and the New Law.

EDITOR KANSAS FARMER:—The letter of Mr. S. J. Schmoker of Dodge City, submitted by you, has been received. Mr. Schmoker submits this question: "Does a road-overseer, elected by the people before the new law, hold his position until his term expires, or can he be discharged without cause, and a road-overseer appointed in his place, according to the new law?"

House bill No. 821 of the Session Laws of 1905, being an act entitled "An Act relating to public highways," in effect of its provisions, abolished every road district in the State and terminated the term of office of those elected at the last November election. There is no question about the authority of the Legislature to do this. The law-making power may create any number of offices in its discretion and any office created by the Legislature may be abolished by the Legislature. One holding an office by virtue of a Legislative act has no vested interest in his office; but his office and his official character may be terminated in the discretion of the Legislature; and neither the judicial nor the executive departments of the Government can question the legislative motive or right so to do.

The said House Bill 821 made it the duty of the township boards of every municipal township in the State to proceed at once to organize their townships into a number of road districts, not exceeding four in number, and to appoint road-overseers therefor.

Mr. Schmoker's second question is of no particular public interest and concerns only the person involved, and he should take his troubles to a private lawyer in general practice.

C. C. COLEMAN,
Attorney General.

A Chance to Own a Farm.

The well-known business firm of Beecher & Beecher of Belleville, Kan., the enterprising fanciers who have been using the columns of the KANSAS FARMER, this week make a substantial

announcement that will interest every farmer who reads the KANSAS FARMER.

This firm has secured the general agency for the Inland Empire Colonizing Company which own and control some of the best wheat land and farm property in the country. In fact, it is a gilt-edged investment that is quite difficult to obtain elsewhere in America on such favorable terms as they offer in their advertisement this week of "Wheat Farms for Everybody."

As an evidence that they mean business and are worthy of confidence, they have sent us the following testimonial:

Belleville, Kan., May 10, 1905.

This is to certify that we are personally acquainted with Beecher & Beecher and know them to be honest, reliable men, who can be depended upon to fulfill any agreement into which they may enter.

H. B. Swanson, county treasurer; J. F. Angle, cashier National bank; F. M. Johnson, president Belleville State bank; W. T. Dillon, judge district court; F. N. Woodward, ex-county clerk; R. B. Ward, ex-State Senator.

A living hope, living in death itself. The world dares say no more for its device than, while I breathe, I hope; but the children of God can add by virtue of this living hope, while I die I hope. Death, which cuts the sinews of all other hopes and turns men out of all other inheritances, alone fulfills this hope and ends it in fruition; as a messenger sent to bring the children of God home to the possession of their inheritance.—Robert Leighton.

A system hardly deserves the name of Christian at all which does not impress upon its worshipers that communion with God is no otherwise to be recognized than in human brotherhood.—Charles Gore.

Wide is the field of Art; but there is little room in it for weaklings—negative men and women.—Frederick Dieleman.

In the Dairy

Experimenting With Dairy Cows.

Excerpts from Bulletin No. 125, Kansas Experiment Station, by D. H. Otis.

(Continued.)

Variations Due to Feed.—Much dispute has arisen in regard to the effect of feed upon the per cent of butter-fat. On account of the fluctuations due to other causes, some of which have been mentioned above, it is very easy to attribute any variation that may happen to occur at the time of changing feed to the feed. The tables above show that it is possible for a large variation to take place without any change of feed. Where accurate records have been kept, it has been found that there is very little if any change in the per cent of butter-fat due to feed. A few recent experiments at other stations indicate that feed may influence in a small degree the per cent of fat in the milk, but this influence is so small that it is hardly worth while for the average farmer or dairyman to pay any attention to it. The test of the richness of the milk seems to be the individual characteristic of the cow, that can not be changed permanently by the will of man, and if we wish to increase the per cent of fat in the milk, we must do it by breeding rather than by feeding. A change of feed may cause a temporary change in the per cent of butter-fat; in fact, any change from the regular routine will cause the cow to fluctuate both in yield and the quality of her milk.

The question has been asked if a whole year of good feeding would in any way affect the cow, so that she would give richer milk the second year.

In January, 1898, the college purchased a herd of common cows from Lincoln County. These cows were in a rather poor, thin condition upon their arrival at the college. Of course, we had no record of their test previous to their arrival, but we commenced testing them at once. A number of the cows in the herd, being rather poor individuals, were sold before their second year's record was completed; but there were ten of the number purchased from which we could draw a comparison. Table XL gives the results of these ten cows for the corresponding portion of the lactation period.

TABLE XL—Effect of a Year of Good Feeding on the Test.

Cow No.	Test in 1898.	Test in 1899.	Difference.
23.....	4.74	4.82	+0.08
3.....	3.69	3.69	.00

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Tubulars Find Gold in Milk

Good butter is worth 20 to 30 cents a pound. Butter is worth only one cent a pound as stock food, yet farmers using gravity skimmers—pans and cans that leave half the cream in the milk—feed that half the cream to stock, then wonder why dairymen don't pay. Can't find gold without digging. Can't make dairymen pay big profits without getting all the cream.

TUBULARS

Dig Right Down

to the paying level—squeeze the last drop of cream out of milk—make dairymen pay. Tubulars are the only modern separators. The picture shows them. Write for catalogue G-165.

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11.....	5.04	4.60	-.43
33.....	3.60	3.58	-.02
9.....	4.03	4.11	+.08
20.....	3.71	3.75	+.04
7.....	4.12	4.00	-.12
24.....	3.23	3.27	+.04
6.....	3.98	3.65	-.33
30.....	4.00	3.90	-.10
Average.....	.....	.....	-0.075

The above figures show that four cows gained in the per cent of butter-fat, one cow remained exactly the same, and five lost in the per cent of butter-fat. The average result shows a loss of 0.075 of one per cent. Of these ten cows, there were four that calved about the same month of each year; two of these gained in the percentage of butter-fat, the other two lost, the average showing neither loss nor gain. Five of the cows began their lactation period from three to six months later in the second year than the first. Two of the five gained in the percentage of butter-fat and three lost.

While the average percentage of butter-fat for these ten cows decreased 0.075 of 1 per cent, our records show that the yield of butter-fat increased over 30 per cent. From this it will be seen that the year's feeding had very little to do in changing the percentage of butter-fat, but it did have a very marked influence on the yield of butter-fat. Experiments have been tried elsewhere to increase the amount of butter-fat in the milk by increasing the amount of fat in the feed, but all such efforts have resulted in failures.

The question is frequently asked if cows do not decrease in test when turned on pasture in the spring. On May 10, 1899, the college herd of common cows was divided into two lots, one-half being put on pasture and the other half put on soiling crops. For one week (fourteen milkings) previous, and for one week after this date a butter-fat test was made of each milking of each cow. The following table gives a two weeks' summary of the cows on pasture:

TABLE XLI.—Changes in Test Due to Turning on Pasture.

Cow No.	One week before pasturing.		One week after pasturing.		Difference.	
	Milk	Test	Milk	Test	Milk	Test
5.....	174.1	3.94	160.0	3.65	-14.10	-0.29
9.....	56.5	5.13	66.7	5.06	+10.20	-.07
10.....	60.9	3.33	63.9	3.80	+3.00	+.47
12.....	69.5	4.77	73.0	5.06	+3.50	+.29
14.....	89.1	4.12	90.0	4.26	+1.10	+.14
22.....	85.5	4.14	110.9	4.08	+25.40	-.06
23.....	160.2	3.99	159.2	4.25	-1.00	+.26
25.....	210.0	3.81	210.9	4.03	+0.90	+.22
27.....	137.0	3.40	145.4	3.84	+8.40	+.44
28.....	158.1	4.28	156.9	4.37	-1.20	+.09
33.....	227.8	3.46	226.4	3.82	-1.40	+.36
Avs.....	3.92	.....	4.10	.....	+3.16	+0.18

In all cases the test for the week is obtained by dividing the total yield of fat by the total weight of the milk. It will be noticed that seven cows gained in the yield of milk while four lost, the average being a weekly gain of 3.16 pounds per cow. Eight cows out of eleven gained in the per cent of butter-fat, the average being a gain of 0.18 of 1 per cent. It is also interesting to note that one cow lost both in yield and test, while three others lost in yield but gained in test. In the latter case, the higher test caused each of the three cows to yield more butter-fat the second week than the first. Two cows gained in yield but lost in test, the increase in yield being sufficient to cause an increase in the yield of butter-fat. There were five cows that gained both in yield and in test.

During the same period we carried on a similar experiment with the soiling cows, the results of which are shown in the following table:

TABLE XLII.—Changes in Test Due to Changing from Dry Feed to Soiling Crops.

Cow No.	One week before soiling.		One week after soiling.		Difference.	
	Milk	Test	Milk	Test	Milk	Test
1.....	111.4	4.51	115.3	4.47	+3.9	-0.04
3.....	185.9	3.38	178.4	3.45	-7.5	+.07
4.....	74.2	3.63	84.4	3.69	+10.2	+.06
6.....	192.5	3.47	187.4	3.42	-5.1	+.05
7.....	225.7	3.97	208.1	4.22	-17.6	+.25
8.....	50.4	4.43	47.3	4.55	-3.1	+.12
11.....	169.8	4.62	168.6	4.71	-1.2	+.09
24.....	233.6	2.97	238.7	3.09	+5.1	+.12
28.....	154.9	4.12	147.2	4.19	-7.7	+.07
29.....	47.6	4.54	49.3	4.42	+1.7	-.12
Avs.....	3.80	.....	3.89	.....	+4.2	+0.09

From this table it will be seen that the soiling cows did not yield as well as those on pasture. This is what

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And it not only does this the first year, in which it saves its cost, but goes on doing it for fully twenty years to come. In the face of these facts buying trashy "cash-in-advance" separators, or any other than the BEST, is penny wise, dollar foolish. Such machines quickly LOSE their cost instead of SAVING it, and then go on losing instead of saving.

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Use one of our separators bought on easy payment plan and deliver your cream to one of our 500 cream receiving stations. In return you get our check two times a month with a complete statement of your account attached.

At each of our stations you can see your cream weighed, sampled and tested. Our butter-fat prices are quoted in advance of delivery and the test of each delivery of cream enables you to know at once the actual cash value of each can delivered. If you need money before checks are due we advance cash on your account. If you can't reach one of our stations you can ship direct. If you have no separator and want one, write us for information about the De Laval and we will tell you how a little cream each month will pay for one.

Ask us any question you please about any phase of the dairy business.

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This Cleveland Cream Separator is sold on the fairest and squarest plan ever devised. A fair trial on your own farm under your own conditions. The easiest to clean, the easiest to run, the best skimmer. We can save you from \$20.00 to \$30.00. Write and we will prove it to you. We will also send you a free book, telling just how the Cleveland is made and how it is sold. Write to-day. The Cleveland Cream Sep. Co., 334 Michigan St., Cleveland, O.

might be expected in early spring, while the grass is green and succulent. Only three cows out of the ten gained in yield of milk, the average result being a weekly loss of 4.2 pounds per cow. Seven cows gained in the per cent of butter-fat, the average result being a gain of 0.09 of 1 per cent. As in the pasture lot, one cow lost both in yield and test; six lost in yield and gained in test. Of the latter, two gained in the yield of

butter-fat while four lost. Of the three that gained in yield, one gained in test while two lost, but all gained a little in butter-fat.

It should be noted that the cows in this experiment were all well fed during the winter, and the increase of yield from turning on pasture was very small, and in the case of soiling cows the yield was actually decreased. The results of the experiment indicate that, when cows are kept under

good winter conditions, there is no increase in test due to pasture.

When cows come out of winter quarters in rather poor, thin condition, and their yield of milk has been decreased from lack of proper nourishment during the winter months, the fresh grass has a wonderful invigorating effect on their system and the yield of milk will undoubtedly be increased. But as the quantity of milk increases the test frequently decreases. This decrease of test can hardly be ascribed to the feed directly, although it does influence it indirectly by increasing the quantity of milk. The poor treatment that the cows received during the winter months resulted in partially drying them up, and of course, as the cows dry up the test increases. The turning them on pasture would be partially restoring them to their normal condition.

(To be continued.)

Dairy Barn.

FRED VAN DORP, KANSAS STATE AGRICULTURAL COLLEGE.

A special dairy barn is an important building only where dairying is one of the important branches of the farm. In general farming, where not carried on too large a scale, a special dairy barn is not the most economical from a labor-saving standpoint. The more you can concentrate under one roof, provided the sanitary conditions, etc., are perfect, the more economically the work can be done.

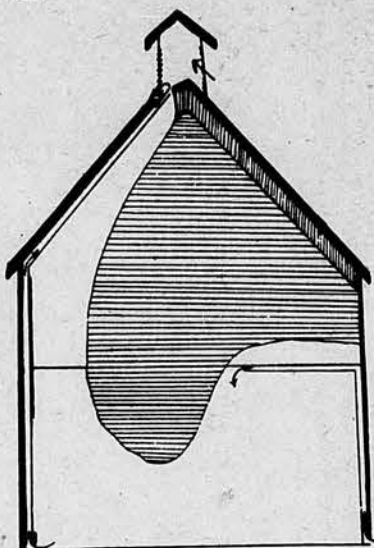
The location should be first considered. Like other buildings, it should be on high ground where there is good drainage away from the building. The location should make it handy to haul away manure and to fill the mow with hay, and it should also be close to the pasture, if possible.

The size of the barn will depend upon the number of cows to be stabled and whether the feed-house and milk-room are to be included in the barn proper. The barn should be from thirty-six to forty feet wide, not wider, as a building wider than this loses its strength. If the stalls are in a double row, which is the most common method, the barn may be made any length wanted. In Kansas probably the cheapest material of construction is lumber; even where stone is cheap, the construction of a stone barn is more expensive. Lumber will afford a sufficient insulation from the wind for a dairy barn, but of course is not so durable as stone.

Light is one of the important considerations, especially from a sanitary standpoint. A large amount of direct sunlight should enter the stable. For this reason a long cow stable is usually placed east and west, so as to get the full benefit of the sun in winter. It is bad policy to have the light shine into the animals' faces. When the cows face a south wall, this can

be obliterated by sunshades. A dark cow stable is always to be avoided if possible.

Along with the light comes the ventilation. A large number of stables have only the windows and doors for ventilation. This is sufficient with only a few cows, but as the number increases, the necessity of an efficient and adequate system of ventilation becomes more important. Some ventilate by means of a cupola over the center of the barn; but this makes a cold stable in winter. The accompanying diagram shows a usually satisfactory system of stable ventilation.



About four feet of flue surface is allowed for each twenty cows; for more cows, increase in proportion. One large flue is better than two or more smaller ones, because the air moves easier and faster. The foul air is taken off at the floor, because it descends after becoming of the same temperature as the room. The fresh air is therefore admitted at the ceiling, making a continuous circuit, furnishing plenty of fresh air. The air outdoors being colder and therefore heavier, has a tendency to prevent the warmer air of the building from rising, thus when there is no wind it may be necessary to furnish a small amount of heat at the opening of the ventilation flue to furnish sufficient draft. The outside opening of the fresh air flue should be considerably below the inside opening, or the warmer air at the ceiling will pass out through it.

At the present day sanitation is more important than it ever was before, and it is becoming more important every day, especially where milk is supplied to the cities or where high-class butter is produced. The ventilation, which has just been described, goes a long way toward purifying the air and removing the dust, but the removal of the excrement is the most important. By means of a gutter close enough behind the cows to catch all the manure, it can be easily carried away. This gutter should have enough slope so that the liquid manure will drain to one end, and thence into a septic tank, a closed tank in which anaerobic bacteria fermentation takes place. After the fermentation has taken place, the liquid is practically inoffensive and can be drained upon nearby pastures or fields for fertilization.

The arrangement of the stable should consider at least two things; labor saving in caring for the animals and the saving of materials of construction. To economize room, the cows are best arranged in a double row in one portion of the building. More than one double row would make the building so wide as to weaken its construction. In front of the cows there should be an aisle for feeding, and behind them one for cleaning out the manure. Since the latter requires the most work, I would have the cows face the wall and thus have the larger aisle behind them. The box stalls can be at one end of the open stalls, the number depending upon the number of the cows kept. Eight by ten feet is sufficient size. A large feed room, and also a milk room, should be included in the barn. The milk room should be the greatest possible distance from the cows. Hay should be kept in a mow

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You can buy a cream separator for less money at the start, but you cannot buy any separator that will cost you so little in the long run.

The first cost is not as important a consideration, however, as the ability of the article to produce profit, and to continue to produce profit without constant expense for repairs. The average cost for repairs on all EMPIRE Cream Separators in use last year was only seventeen cents per machine. That is a record which means something; it means dollars to you if you are an EMPIRE user. When you buy a cream separator, you want one that is ready for use twice a day three hundred and sixty-five days a year, and in a leap year three hundred and sixty-six days. That is the EMPIRE. You want a machine that gets all the butter fat out of the milk every time it is used. That is the EMPIRE.



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above the cows rather than in a separate building; the dust will not be noticed if a tight floor is laid. When silos are used, they are best placed at one end of the building, where they are easily filled and handy to take the silage from.

The above arrangement is one which is both handy and inexpensive. The internal arrangements, such as stalls, can be made as cheap or as expensive as desired. So, also, a small or a large amount of money can be expended on external architecture, but for all practical purposes the plainer the building the better, provided it has the proper dimensions to make a pleasing appearance.

Causes of Variation in Milk-Production.

In testing milk of individual cows with the Babcock test, does the per cent of butter-fat depend on the period of lactation or upon the quality of the feed these cows eat? R. D. G. Doniphan County.

Neither the quality of the feed nor the period of lactation has any considerable effect upon the per cent of butter-fat in the milk. This is a matter that is settled by the individuality of the cow. Naturally, as the period of lactation advances, the quantity of the milk given by an animal decreases, and the per cent of butter-fat, as a rule, slightly increases. Owing to a number of causes, such as environment, condition of the animal, etc., there is a constant variation of the per cent of butter-fat in milk. Change in feed may produce temporary changes in the quality of the milk, but they soon pass away and the cow goes back to a normal production. However, in this connection, we assume that the above cow has been fed well balanced rations of sufficient quantity to cause her to give milk to her fullest capacity. O. Erf.

Per Cent of Fat in Cream.

In testing milk of Jerseys for cream, what is considered a good per cent of fat, and what do you understand by cream? J. M. Nemaha County.

The per cent of fat depends entirely upon the manner of separation. The quantity is regulated by the richness of the milk. A very rich or high (Continued on page 387.)



CHILD'S SO-BOS-SO KILFLY.
Kills flies and all insects; protects horses as well as cows. Perfectly harmless to man and beast. Rapidly applied with Child's Electric Sprayer. 30 to 50 cows sprayed in a few minutes. A true antiseptic; keeps stables, chicken houses, pig pens in a perfectly sanitary condition.

Ask dealer for Child's SO-BOS-SO or send \$1 (special price) for 1-gal. can and sprayer complete by express. CHAS. H. CHILDS & CO., Sole Manufacturers, 18 Lafayette Street, Utica, N. Y.

INTERESTING TO WOMEN



GOOD AGENTS WANTED

DAVIS CREAM SEPARATOR CO.

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Cured to Stay Cured
Attacks stopped permanently. Cause removed. Breathing organs and nervous system restored. Symptoms never return. No medicines needed afterward. 21 years success treating Asthma and Hay Fever. 55,000 patients. Book L Free. Very interesting.
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There are only two classes of hand cream separators

The Omega

and all others. Because of the great simplicity, ease of operating, ease in cleaning and perfect skimming the Omega is in a class by itself. No other can be compared to it or classed with it.

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We want a good, active agent in every locality. Special inducements to experienced separator salesmen.

The Omega Separator Co.
23 Concord St. Lansing, Mich. or Department F. Minneapolis, Minn.

POULTRY BREEDERS' DIRECTORY

Eggs From Prize-winning S. C. B. Leghorns that are mated to win. Pen No. 1, \$1.50 per 15; pen No. 2, \$1 per 15. Get prices on larger quantities. State number wanted. F. W. Boutwell, Route 8, Topeka, Kans.

EGGS FOR HATCHING from Rose Comb Rhode Island Reds at greatly reduced prices after June 1; high-scoring pen, \$1.50 per 15; No. 1 pen, \$1 per 15; No. 2 pen, \$5 per 100. Leon Carter, Asherville, Kans.

BLACK LANGSHAN EGGS for hatching, \$1 per 15; \$5 per 100. Good stock. Address Mrs. Geo. W. King, Box 101, Solomon, Kans.

BUFF ROCK EGGS—For sale at 15 for \$1; 45 for \$2.25. H. M. Stephens, Menden, Republic County, Kans.

CHOICE B. P. ROCK cockerels and pullets—Collie pups; send for circular. W. B. Williams, Stella, Neb.

EGGS FOR SALE—S. C. W. Leghorns, W. Wyandottes; \$1 per 15. W. H. turkeys, \$1.50 per 9. Emden geese, 20c each. W. African guineas, \$1 per 17. All guaranteed pure-bred. A. F. Hutley, Route 2, Maple Hill, Kans.

WHITE WYANDOTTES Exclusively—Pure-bred and good layers. Eggs, \$1 for 15. Stock all sold. Mrs. C. E. Williams, Irving, Kans.

PURE S. C. B. LEGHORN EGGS, 30 for \$1; 100 for \$3. New blood. F. C. Flower, Wakefield, Kans.

S. C. BLACK MINORCAS—The world's greatest laying strain; beautiful in shape, color and comb. Eggs, \$1.50 per 15; \$5 per 100. Cockerels, \$1; hens, \$1. Address George Kern, 817 Osage St., Leavenworth, Kans. Circular 5 cents.

PURE BLACK LANGSHANS—Strictly fresh eggs, 25 for \$1; \$3.50 per 100. Mary McCaul, Elk City, Kans.

A ROCK CUT—After May 10, Barred Plymouth Eggs, 75 cents per 15; \$4 per 100. From the best strains in America. Order at once. Mrs. Chas. Osborn, Eureka, Kans.

PURE S. C. B. Leghorns eggs, 30 for \$1; 100 for \$3. New blood. F. P. Flower, Wakefield, Kans.

BUFF COCHIN EGGS, \$1 per 13 from rich Golden Buff; heavy feathered birds, scoring 93 to 94%. Eggs ready to ship now. Romo Martindale, Topeka, Kans.

INDIAN RUNNER DUCKS—Eggs, \$1.50 per sitting. Most profitable fowl raised; 200 eggs per year. Great demand for fowls and eggs. Order now. L. D. Arnold, Abilene, Kans.

SILVER WYANDOTTES exclusively: pure-bred farm range; 1st prizes twelve years. Nice fertile eggs, 100, \$4. Mrs. J. W. Gause, Emporia, Kans.

EGGS—From full-blood S. C. B. Leghorns, \$1.25 for 30. Mrs. A. G. Page, Route 1, Eudora, Kans.

BUFF LEGHORNS EXCLUSIVELY—Eggs \$1.75 per 50; \$3 per 100. J. A. Reed, Route 3 Wakefield, Kans.

WHITE WYANDOTTES—Choice mated and free range stock. Eggs, \$1.50 per 15. Incubator eggs, \$4 per 100. L. D. Arnold, Abilene, Kans.

FILL YOUR INCUBATOR with eggs of my utility and beauty strains. Barred and Buff Plymouth Rocks, White Wyandottes, S. C. Black Minorcas, S. C. White and Brown Leghorns. Fresh eggs, carefully packed, \$5 per 100; \$3 per 50; \$1.50 per 15. James C. Jones, Leavenworth, Kans.

RHODE ISLAND REDS—A hardy, early-maturing, general-purpose fowl; original stock from the East. Eggs per 15, \$1.25; 30, \$2.00. Mrs. G. F. Kellerman, Vineyard Farm, Mound City, Kans.

R. C. W. LEGHORN EGGS \$1 per sitting; \$1.50 per two sittings; \$5 per hundred. Stock excellent. Mrs. A. D. Corning, Route 1, Delphos, Kans.

FOR SALE—Scotch Collies. One male about full grown; pure stock and fine individuals, but cannot furnish pedigree. Price, \$5. Females about 4 months old, of best stock, with pedigree. Price, \$5. Hill Top Farm, Parkville, Mo.

MAPLE HILL Standard-bred S. C. B. Leghorns champion layers, none better; cockerels from State prize-winners. \$1 per sitting; \$5 per 100. Mrs. D. W. Evans, Edgerton, Kans.

STANDARD BRED SINGLE COMB BUFF LEGHORNS—Headed by first prize pen Chicago Show 1903 and took six first prizes and first pen at Newton 1904. Eggs, \$3 for 15. S. Perkins, 801 East First Street, Newton, Kans.

WHITE WYANDOTTES—Eggs for hatching from choice matings, \$1 per 15; \$4 per 100. S. W. Arts, Larned, Kans.

BLACK MINORCAS—Biggest layers of biggest eggs. Eggs for hatching, \$1.50 per 15. Also at same price, eggs from choice mating of Light Brahmas, Partridge Cochins, Buff Oringtons, Barred and Buff Plymouth Rocks, White and Silver Laced Wyandottes, Rhode Island Reds, Rose and Single Comb White and Brown Leghorns, American Dominiques, Pilsen Games, Houdans, White Crested Black Polish, White Crested White Polish, Buff Cochins, Bantams, James C. Jones, Leavenworth, Kans.

WHITE WYANDOTTES—Large birds, farm range. Eggs, 75 per 15. Henry Harrington, Clearwater, Kans.

S. C. W. Leghorns and Buff Rocks. Winners at State Fairs. Eggs, \$1 per sitting. J. W. Cook, Route 3, Hutchinson, Kans.

FOR SALE—All kinds of fancy pigeons, reasonable. Toulouse geese eggs, \$1 per sitting; Pekin and Rouen duck eggs, 15 for \$1. Muscovy duck eggs, 10 for \$1; White Holland turkey eggs, 9 for \$2; poultry eggs, 15 for \$1, from the following kinds: Barred Plymouth Rocks, Buff Cochins, Houdans, S. S. Hamburg, Cornish Indian Games, Buff, White and Silver Laced Wyandottes, Brown, White and Buff Leghorns, Golden Seabright Bantams, Pearl and White Guineas, Peacocks. Write for circular. D. L. Bruen, Platte Center, Neb.

S. C. B. LEGHORNS EXCLUSIVELY—Eggs for hatching from fine pure-bred stock at \$1 per 15. Write for prices on larger numbers. J. A. Kaufman, Abilene, Kans.

FOR BUFF PLYMOUTH ROCK eggs, from best stock, send to Gem Poultry Farm; 15, \$2; 30, \$3.50. Pure M. Bronze turkey eggs, 11, \$3. C. W. Peckham, Haven, Kans.

FOR SALE—Two male Scotch collies, nearly full grown. Eligible to registry, strong in the blood of Metchley Wonder. Price, \$10 each. Geo. W. Maffet, Lawrence, Kans.

TO GIVE AWAY—50 Buff Oringtons and 50 Buff Leghorns to Shawnee county farmers. Will buy the chicks and eggs. Write me. W. H. Maxwell, 921 Topeka Ave., Topeka, Kans.

SCOTCH COLLIE PUPS—Four more litters of those high-bred Collies, from 1 to 3 weeks old, for sale. Booking orders now. Walnut Grove Farm, R. D. Nutting, Prop., Emporia, Kans.

BARRED AND WHITE PLYMOUTH ROCK Eggs, \$2 per 15; \$5 per 45. Hawkins and Bradley strains, scoring 93% to 94%. Mr. & Mrs. Chris Bearman Ottawa, Kans.

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Kansas State Laying Contest.

The first half of the contest ended with April and the pens were in the following order:

ROSE COMB RHODE ISLAND REDS.										
Band.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Total.	Value.	Feed cost.	Loss or gain.
3.....	15	24	19	..	19	16	93	\$1.369	\$0.499	\$0.870
6.....	17	23	10	1	19	13	83	1.222	.499	.723
214.....	10	12	19	1	24	17	64	.833	.499	.334
218.....	..	..	10	3	22	16	47	.564	.499	.065
233.....	3	23	..	17	22	13	97	1.399	.499	.900
340.....	14	19	6	2	24	19	78	1.069	.499	.570
Total.....	59	101	54	24	130	94	462	\$6.456	\$2.994	\$3.462
ROSE COMB WHITE LEGHORNS.										
6.....	..	12	18	22	23	17	92	\$1.278	\$0.439	\$0.839
8.....	3	14	15	5	24	14	75	1.031	.439	.592
25.....	..	14	14	3	..	..	31	.512	.361	.151
68.....	..	..	11	1	19	13	44	.552	.439	.113
94.....	..	3	5	6	21	21	58	.718	.439	.279
98.....	3	16	17	17	23	20	96	1.336	.439	.897
89.....	..	..	..	..	..	8	8	.086	.065	.021
Total.....	6	61	80	54	110	93	404	\$5.313	\$2.621	\$2.892
BUFF WYANDOTTES.										
6.....	..	20	21	14	21	15	91	\$1.293	\$0.513	\$0.780
12.....	..	12	17	16	22	18	85	1.169	.513	.666
14.....	..	9	18	2	22	19	70	.930	.513	.417
20.....	..	3	16	16	27	14	76	1.016	.513	.503
42.....	..	..	10	19	18	18	65	.867	.513	.344
459.....	..	..	..	8	..	..	8	.124	.513	-.389
Total.....	..	44	82	75	110	84	395	\$5.389	\$3.078	\$2.311
WHITE WYANDOTTES.										
4A4.....	..	14	..	23	23	16	55	\$0.689	\$0.507	\$0.182
4A7.....	..	..	..	..	24	17	41	.462	.507	-.065
4C9.....	..	..	19	10	22	13	64	.849	.507	.342
4C11.....	2	22	24	19	24	21	112	1.585	.507	1.078
4C12.....	..	..	..	..	23	18	41	.449	.507	-.068
B1B.....	..	..	..	..	23	18	39	.429	.507	-.078
Total.....	2	36	43	31	139	101	352	\$4.453	\$3.042	\$1.411
SINGLE COMB WHITE LEGHORNS.										
3.....	6	16	3	6	23	21	75	\$0.996	\$0.437	\$0.559
7.....	..	..	..	..	..	5	5	.064	.032	.022
19.....	..	5	2	10	21	13	51	.643	.437	.206
21.....	..	5	3	4	25	20	57	.688	.437	.251
50.....	..	4	6	1	21	19	51	.620	.437	.183
51.....	8	16	2	12	20	17	75	1.063	.437	.616
60.....	..	3	..	1	21	8	33	.364	.407	-.043
Total.....	14	49	16	34	131	103	347	\$4.418	\$2.624	\$1.794
BARRED PLYMOUTH ROCKS.										
7.....	2	15	..	2	22	11	52	\$0.676	\$0.527	\$0.149
10.....	..	..	..	2	19	17	38	.425	.527	-.102
45.....	..	14	20	10	24	19	86	1.177	.527	.650
67.....	..	..	..	..	23	13	36	.396	.527	-.132
70.....	..	..	..	..	20	13	33	.362	.527	-.165
98.....	..	..	..	..	18	16	34	.372	.527	-.155
Total.....	2	29	20	14	126	88	279	\$3.407	\$3.162	\$0.245
LIGHT BRAHMAS.										
8.....	..	4	9	10	23	17	63	\$0.810	\$0.525	\$0.285
18.....	..	..	..	2	20	12	34	.383	.525	-.142
21.....	..	..	10	13	16	10	49	.655	.525	.130
25.....	..	..	2	18	18	15	53	.674	.525	.149
54.....	..	..	..	..	13	17	30	.327	.525	-.198
70.....	..	..	..	..	21	17	38	.416	.525	-.109
Total.....	..	4	21	43	111	88	267	\$3.265	\$3.150	\$0.115

This contest was arranged by the Kansas White Wyandotte Club and began November 1, 1904.

The first pen, Rose Comb Rhode Island Reds, are owned by Dr. J. Martin, Wichita, Kans. These birds were very early hatched and were laying when shipped to the college, being the only birds laying at that time. They laid heavily up to January 1, 1905, when several of them molted and stopped laying. Of all the birds in the contest they are most inclined to broodiness.

The second pen, Rose Comb White Leghorns, are owned by Mrs. Jennie E. Warren, Cottonwood Falls, Kans. These pullets seemed out of condition at first but recovered and have given excellent results. They did not suffer from the extreme cold so much as their Single Comb cousins. One of them died and was replaced in April.

The third pen, Buff Wyandottes, are owned by Mr. G. C. Wheeler, formerly of the station staff but now of Harlem, Mo. These pullets have done well, ranking their white cousins.

The fourth pen, White Wyandottes, are owned by Beecher & Beecher, Belleville, Kans. These pullets were in prime condition from the first and one of their number, 4C11, holds the individual record for this six months.

The fifth pen, Single Comb White Leghorns, are owned by the Kansas State Agricultural College, which is conducting the contest. Although these pullets suffered from the severe cold more than any other breed, they are making a good record. One of their number died suddenly and was promptly replaced in April.

The sixth pen, Barred Plymouth Rocks, are owned by Mrs. J. B. Jones,

Abilene, Kansas. These birds were hens when entered while all others were pullets. This was due to an unfortunate misunderstanding and is manifestly unfair to the breed as hens are generally conceded to be poorer winter layers than pullets. These hens had hardly completed their molt when entered. They are inclined to over fatness and are heavy eaters.

The last pen, Light Brahmas, are owned by Mr. F. A. Brown, Onaga,

Kansas. These pullets were in the best of condition from the first and their small egg-record early in the contest must be explained by the fact that they are slow maturing fowls. In this pen and, in fact, in all the pens except Leghorns, the egg yield in April fell on account of broodiness. All broody birds were promptly removed to a strange pen which seemed to break up the condition and in ten days they were again ready for laying.

In starting a contest of this kind, conditions always arise that are unfavorable to heavy laying. The birds must be shipped and must have time to become accustomed to their strange surroundings. Then again, the past winter was the most severe ever known in Kansas, the temperature falling to 30 degrees below zero, with long continued cold.

The house in which the birds were wintered is of the curtain front style and was built for a larger number of birds per pen than were furnished by the club. With so small a number of birds in each pen it is no wonder egg-production was at times retarded.

Notwithstanding these unfavorable conditions, the results compare favorably with those obtained in previous authentic laying contests and should prove of more value than when no record has been kept of individual performance.

A study of the table will reveal a surprising difference in the individuality of these hens. The egg values and feed cost are based on local markets.

At the close of the year additional items will be published including brooding terms, fertility of eggs, etc. Yours for "Better Birds for Kansas," BEECHER & BEECHER.

POULTRY BREEDERS' DIRECTORY

SUNNY SUMMIT FARM—Pure-bred poultry stock and eggs for sale from high-scoring varieties of S. Spangled Hamburgs, S. C. and R. C. Brown, S. C. White Leghorns, S. C. Black Minorcas. Eggs, \$1 per 15; M. B. Turkey eggs, \$2 per 9. Vira Bailey, Kinsley, Kans.

H. M. JOHNSON Laying strain R. C. Brown Leghorn. Breeding pens selected with care in extra layers and fine points. Eggs from pens, \$1.50 per 15; \$3 per 45. Range flock per sitting, 75 cents; \$3 per 100. H. M. Johnson, Formosa, Kans.

Neosho Poultry Yards

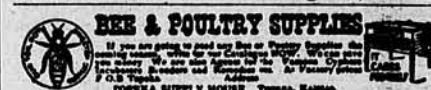
Rose Comb R. I. Red and Buff Orington eggs the balance of the season \$1 per sitting. Birds score 91% to 94%. J. W. Raritz, Americus, Kans.

Golden Wyandottes

Winners at Topeka Poultry Show, January 1905. 2, 3 hen, 8 pullet, 2 cock, 2 cockerel. A few birds for sale. Eggs, \$2 per 15. J. D. MOORE, Route 2, Blue Mound, Kans.

White Wyandottes

EXCLUSIVELY. The strain that's bred to lay. Large birds, farm range. Eggs, \$1 per 15; 50 each for 50 or more. P. E. SALTER, Augusta, Kansas



WANTED. Buyers of eggs, from my pure-bred, free, large, bright plumage B. P. Rocks. Flock headed by birds from the celebrated Buckeye strain. Price, \$1 for 15; \$1.75 for 30; \$2.50 for 50; and \$5 for 100. Book your orders early. Mrs. ADA L. AINSWORTH, Eureka, Kans.

WHITE WYANDOTTE

Eggs from prize-winning heavy layers, half price. Now \$1.50 per 15. Pen contains sister and dam of leading pullet in State laying contest—112 eggs in six months.

BEECHER & BEECHER, BELLEVILLE, KANS.

"A NINE TIMES WINNER"

Bates Pedigreed Strain of White Plymouth Rocks have been shown in nine poultry shows the past two years and

Won in Every One of Them. If they win for us, their offspring ought to win for you. Eggs, \$1.50 per 15. Elmwood strain of White Wyandottes also hold their own in the show-room. Eggs, \$1 per 15.

W. L. BATES, Topeka, Kansas.

White Plymouth Rocks

EXCLUSIVELY.

Good for Eggs, Good to Eat, and Good to Look at

W. P. Rocks hold the record for egg-laying over every other variety of fowls; eight pullets averaging 289 eggs each in one year. I have bred them exclusively for twelve years and have them scoring 94 to 96%, and as good as can be found anywhere. Eggs only \$2 per 15; \$5 per 45, and I prepay express to any express office in the United States. Yards at residence, adjoining Washburn College. Address: THOMAS OWEN, Sta. B, Topeka, Kans.

POULTRY SUPPLIES

Thames (Hoe powder).....\$1.00
Ore-carbide (Hoe killer).....\$1.00
Egg Maker.....\$1.00
Poultry Care.....\$1.00
Ramp Pills.....\$1.00
Medicated Nest Eggs.....\$1.00
Conkey's Roast Cure.....\$1.00
Buckeye Cholera Cure.....\$1.00

OWEN & COMPANY

520 Kansas Ave., Topeka, Kans.

BEE SUPPLIES

Now is the time to buy your Bee and Poultry supplies, large stock, lowest prices. We are Western agents for the Oshers, Incubator Breeders, etc., at factory prices. Write to-day for catalogue. TOPEKA SUPPLY HOUSE, 632 Quincy St., Topeka, Kansas

JUST ISSUED

POULTRY FEEDING AND FATTENING

A handbook for poultry keepers on the standard and improved methods of feeding and marketing all kinds of poultry.

The subject of feeding and fattening poultry is prepared largely from the side of the best practice and experience here and abroad, although the underlying science of feeding is explained as fully as needful. The subject covers all branches, including chickens, broilers, capons, turkeys and waterfowl; how to feed under various conditions and for different purposes. The whole subject of capons and caponizing is treated in detail. A great mass of practical information and experience not readily obtainable elsewhere is given, with full and explicit directions for fattening and preparing for market. The broad scope of the book is shown in the following

TABLE OF CONTENTS

Thrifty Growth, Expert Chicken Feeding, Broiler Raising, Nutrition for Layers, Special Foods, To Finish and Dress Capons, The Art of Poultry Fattening, Lessons from Foreign Experts, American Fattening Methods, At Killing Time, Preparing for Market, Marketing Turkeys and Waterfowl, Finish and Shaping. Profusely illustrated, 160 pages, 5x7 1/2 inches, cloth. Price 50 cents postpaid.

Kansas Farmer Company

Topeka, Kansas

Preserving Eggs.

A subscriber wishes a recipe for preserving eggs, which we hereby give, though we hardly think it will pay to preserve eggs when they are selling at fifteen cents per dozen. When the price gets down to six or eight cents per dozen, as sometimes happens, it might be a profitable business.

The Scientific American gives the following recipe for preserving eggs: Having filled a clean keg or barrel with fresh eggs, cover them with cold salicylic water. The eggs must be kept down by a few boards floating on the water, and the whole covered with cloth to keep out dust. If set in a cool place, the eggs so packed will keep for months, but they must be used as soon as taken out of the brine. To make the salicylic solution, dissolve salicylic acid in boiling water, one teaspoonful of acid to the gallon. If it not necessary to boil all the water as the acid will dissolve in a less quantity, and the rest may be added to the solution cold. The solution of brine should at no time come in contact with any metal. In a clean, airy cellar, one brine is sufficient for three months or more, otherwise it should be renewed oftener. For that purpose, the keg or barrel should have a wooden spigot to draw off the liquid so as to replenish the vessel. Butter kneaded in the same solution and packed tight in clean stone jars will keep fresh the whole winter, but must be covered with muslin saturated in the water, renewing it sometimes. Cover the jars with blotting paper saturated with glycerine. Salicylic acid is harmless and yet one of the best and certainly most pleasant disinfectants in existence, with no color nor taste. The water is an excellent tooth wash and the best gargle to prevent diphtheritic contagion.

Poultry Notes.

"The hen stood on the garden lot, Whence all but she had fled; And didn't leave a planted spot In the early onion bed. With vim she worked both feet and legs, And the gardener says 'he bets She was trying to find the kind of eggs On which the onion-sets.'"

Fresh eggs are bringing better prices this season than for a number of years; in fact, we do not recall so high and uniform a price for the past twenty years. The price has held steadily at fifteen cents per dozen for several weeks. Usually at this time of year, eggs are selling at ten cents per dozen or lower. At fifteen cents per dozen there is a good profit in eggs and farmers would do well to increase their stock of layers. Good weather may have had a tendency to lessen the production of eggs and therefore increase the price, for supply and demand usually go hand in hand; but the high price of beef, pork and mutton also affects the price of eggs, for people find out that there is twice as much nutriment in a dozen of eggs at fifteen cents per dozen, as there is in two pounds of steak at twice the amount in price.

This is the time of year when lice get in their deadly work in the poultry yard; more chicks are killed by lice than through all other chicken ailments. The young chicks should be examined every week or so for head-lice and lice on the body. A good dusting with insect-powder is usually sufficient for the body-lice; for head-lice, grease their heads with carbolic salve. The laying hens, if they have not been properly cared for, will be found to be teeming with lice. Spray the roosts and nest-boxes with a coal-oil emulsion or some liquid lice-killer. If the lice are very numerous, it may be necessary to dust each one separately with insect-powder before the lice can be effectively exterminated.

Haymakers will note that the Ell Hay Press advertising makes its appearance for the first time this season in this issue. Haymakers are all familiar with the Ell presses. They have been long in use and they have a good name. The makers, The Collins Plow Co., of Quincy, Ill., have presses doing duty in about every corner of the country. Any one about to buy a press should not think of doing so without first investigating the Ell line. It consists of some 38 styles and sizes, both horse- and belt-power. The Ell catalogue will be gladly mailed on request and it gives full information.

Per Cent of Fat in Cream.

(Continued from page 385.)

per cent cream can be produced from milk containing a small per cent of butter-fat as well as from milk containing a high per cent of butter-fat; hence, thick or thin cream can be obtained by regulating the separator and does not depend on the cow or breed. Cream contains approximately the same per cent of constituents as milk, except the water and butter-fat. The per cent of butter-fat in milk may range from 1 to 10 per cent; in cream it may range from 10 to 80 per cent. Seventy-nine per cent cream is really butter, but the pure-food law regulates this division in stating that butter should not contain less than 80 per cent of butter-fat. O. ERF.

Sweet or Sour Milk for Pigs.

Some of my neighbors claim to have lost hogs by feeding separator milk to them, and now they put the milk into a barrel and let it sour before feeding it, because they say, "It is better to feed hogs no fresh separator milk, and with sour milk they do all right." What do you say about it? Ellis County. S. G. M.

The above inquiry has more to do with the sanitary condition of the milk. The ordinary swill-barrel is vile beyond description, and fed in this way it is safe to say that fully one-half of the value of skim-milk is lost. Sweet skim-milk, slightly diluted with water, and fed in a clean trough, will give better results than sour milk, for small pigs. However, for shoats weighing fifty pounds and over, it is usually better to feed them milk slightly soured. The acid of the milk seems to stimulate the digestive organs and acts somewhat as a laxative, producing better results for feeding purposes. O. ERF.

New Catalogue of De Laval Cream Separators.

One of the most complete, interesting and up-to-date catalogues ever published on the subject of cream separators has recently been issued by The De Laval Separator Company, of New York. To both the experienced and inexperienced buyer of cream separators the new De Laval catalogue offers a source of much valuable information. Not only is the importance of the cream separator as a profit-making machine for the cow-owner discussed therein in a clear and easily understood manner, but the book is illustrated throughout with cuts of the different styles of De Laval machines and their interior parts, which illustrations give the reader an excellent idea of the De Laval separator and its operation. The superiority of the "Alpha" or "Disk" system is illustrated and set forth in an interesting manner. In fact almost any question one might ask concerning separator construction is fully answered in the De Laval catalogue. Attention is also called to the improvements made in the 1905 De Laval machines, and the fact that the De Laval separator to-day offers even greater advantages to the user than ever before. Over twenty-five years of experience in manufacturing separators, on the part of the De Laval Company have made the 1905 De Laval machines ideally perfect in skimming efficiency, durability, ease of operation, etc. A better understanding is had of De Laval "value" and of the important part it has played in developing the modern dairy industry of the world when attention is called to the fact that over 600,000 De Laval machines are in actual use to-day, and that one big Western creamery concern alone has sold over 15,000 De Laval separators and is paying out on an average of \$3,000,000 each year for De Laval produced cream.

The high standard of separator value which has been maintained in the De Laval machines, and for which they have been renowned for a quarter of a century, is well worthy the consideration of every prospective buyer, and any one seeking separator facts or information upon the centrifugal separation of cream can do no better than write to The De Laval Separator Company, at their General Offices, 74 Cortlandt St., New York, or one of their various branches, for a free copy of their most interesting catalogue.

Empire Cream Separator Co. Institutes Proceedings Against Two of Its Competitors.

Summonses were filed in the Hudson County sheriff's office in Jersey City to-day by Riker & Riker, of this city, in two suits brought to recover heavy damages for alleged libel and slander. The Empire Cream Separator Company and the De Laval Separator Company and the De Laval Dairy Supply Company, both with headquarters in the Corporation Trust Company, Jersey City, are the defendants. In the case against the De Laval Separator Company the sum of \$200,000 is asked, and in the other \$100,000. All three concerns are New Jersey corporations and manufacture machinery used in the making of cream, butter and cheese. The plaintiff company, formerly known as the United States Butter Extractor Company, is the largest of the three, having a capitalization of \$1,225,000, with the De Laval Separator Company next with \$100,000 capital and the Dairy

Backache, "The Blues"

Both Symptoms of Organic Derangement in Women—Thousands of Sufferers Find Relief.



How often do we hear women say: "It seems as though my back would break," or "Don't speak to me, I am all out of sorts?" These significant remarks prove that the system requires attention.

Backache and "the blues" are direct symptoms of an inward trouble which will sooner or later declare itself. It may be caused by diseased kidneys or some uterine derangement. Nature requires assistance and at once, and Lydia E. Pinkham's Vegetable Compound instantly asserts its curative powers in all those peculiar ailments of women. It has been the standby of intelligent American women for twenty years, and the ablest specialists agree that it is the most universally successful remedy for woman's ills known to medicine.

The following letters from Mrs. Holmes and Mrs. Cotrely are among the many thousands which Mrs. Pinkham has received this year from those whom she has relieved.

Surely such testimony is convincing. Mrs. J. G. Holmes, of Larimore, North Dakota, writes:

Dear Mrs. Pinkham:— "I have suffered everything with backache and womb trouble—I let the trouble run on until my system was in such a condition that I was unable to be about, and then it was I commenced to use Lydia E. Pinkham's Vegetable Compound. If I had only known how much suffering I would have saved, I should have taken it months sooner—for a few weeks' treatment made me well and strong. My backaches and headaches are all gone and I suffer no pain at my menstrual periods, whereas before I took Lydia E. Pinkham's Vegetable Compound I suffered intense pain."

Mrs. Emma Cotrely, 109 East 12th Street, New York City, writes:

Ask Mrs. Pinkham's Advice—A Woman Best Understands a Woman's Ills.

Dear Mrs. Pinkham:— "I feel it my duty to tell all suffering women of the relief I have found in Lydia E. Pinkham's Vegetable Compound. When I commenced taking the Compound I suffered everything with backaches, headaches, menstrual and ovarian troubles. I am completely cured and enjoy the best of health, and I owe it all to you."

When women are troubled with irregular, suppressed or painful menstruation, weakness, leucorrhoea, displacement or ulceration of the womb, that bearing down feeling, inflammation of the ovaries, backache, bloating (or flatulence), general debility, indigestion and nervous prostration, or are beset with such symptoms as dizziness, faintness, lassitude, excitability, irritability, nervousness, sleeplessness, melancholy, "all gone" and "want-to-be-left-alone" feelings, blues and hopelessness, they should remember there is one tried and true remedy, Lydia E. Pinkham's Vegetable Compound at once removes such troubles.

No other medicine in the world has received such widespread and unqualified endorsement. No other medicine has such a record of cures of female troubles. Refuse to buy any substitute.

FREE ADVICE TO WOMEN.

Remember, every woman is cordially invited to write to Mrs. Pinkham if there is anything about her symptoms she does not understand. Mrs. Pinkham's address is Lynn, Mass., her advice is free and cheerfully given to every ailing woman who asks for it. Her advice and medicine have restored to health more than one hundred thousand women.

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Supply Company with \$50,000. The latter two are controlled by Swedish financiers. The Empire Company made a specialty of cream extracting machinery, designed upon what is known in the trade as the "bowl" principle, whereas the defendant companies utilized a "disk" pattern.

It is set forth in the declaration that June 30 last the defendant companies issued circular letters to the trade, their superintendents, representatives and agents generally to the effect that the Empire Company had decided to abandon the manufacture of the bowl pattern machines, as they were antiquated and not as good as the disk machines of the defendant corporations. The latter further declared, it is alleged, that the Empire Company was stocked with 5,000 of the old machines, which it was anxious

to sell to the trade and that it had experienced a poor season, the massive closing with the words, "You may use this."

For issuing the alleged circular letter the Empire Company sues for damages for libel and for the alleged instruction to representatives to use the information contained in it the company seeks monetary bail on the ground of slander.

Henning G. Taube, of Montclair, is president of the Empire Company, and Ernest E. Bell, of Glen Ridge, general manager. —Newark Evening News.

MANURE-SPREADERS.

If you expect to buy a spreader, you can get information of value by addressing Box T366, Waterloo, Iowa.

Grange Department

"For the good of our order,
our country, and mankind."

All communications for this department should be addressed to Mrs. Kittle J. McCracken, Station B, Topeka, Kans.

The Kansas Farmer is the official paper of the Kansas State Grange.

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Edgerton Grange.

The following fine report is a welcome addition to our Grange column. It is a splendid example of what a united effort on the part of Patrons in a laudable enterprise, can accomplish. We hope it may induce a spirit of emulation among our granges—emulation without envy—which may become the stepping-stone to a general united progress. Who next?

Will not some of our far-away grangers in the western part of our State who I am sure will read this request, send a fraternal greeting to the Grange family through the columns of our KANSAS FARMER?

EDITOR GRANGE DEPARTMENT:—It is not often that anything is heard from Edgerton Grange No. 435. And, not wishing to be in the list of delinquents at roll-call, I will try to tell the Patrons of Kansas some of the most important things our Grange has accomplished.

After years of talk and longing on the part of the leading Patrons for a hall of our own, the thought was given birth last fall in the forming of a cooperative building association under the name of "The Edgerton Grange Building and Grain Association." Subscriptions for stock, letting of contracts, plans of architects, etc., followed. The association has just completed a fine building 48 by 80 feet, two stories in height, built of pressed brick with ochre brick and white stone trimmings, at a cost of \$8,000, the stock being mostly taken by Patrons, Edgerton Grange being the principal subscriber to the stock of the association.

The Johnson County Cooperative Association, of which Edgerton store is a branch, occupies the lower story. The upper story contains two rooms, one for lodge purposes and the other to be used as a public hall, with a seating capacity of four hundred and fifty. The hall was dedicated the 16th with ceremony designed by the National Grange, delivered by Geo. Black, secretary of Kansas State Grange, by dispensation of State Master Westgate.

Ladies of the grange served dinner at 12 m., at which ice cream and cake were abundant.

The dedicatory services occurred at 2 p. m., at which Bros. Black, I. D. Hibern and U. C. Livermore, of Olathe; Bert Radcliffe and Theo Dickson, of Overbrook; Mrs. Belle Hill, of Vinland; J. Regney and Rev. McFeaters, of Edgerton, made appropriate remarks on the courage, perseverance, harmony, advancement and the possibilities of the Grange; after which, Mr. U. Rhodes, of Bellflower Grange, presented Worthy Master Hastings with a gavel, with appropriate remarks.

A gavel was also presented to Edgerton Grange by Dr. George N. Jewett, on behalf of E. S. Ayres, of Bellflower Grange. This gavel was made of Arizona juniper and ash by Mr. Ayres while teaching in the Indian schools in Arizona.

The Grange choir is deserving of praise for the beautiful and appropriate music rendered.

Edgerton Grange has experienced a steady growth. We now have a membership of 140 and are alive to the interests of the Grange, the power it is and the good that can be done by it. LECTURER EDGERTON GRANGE.

Farm Notes.

N. J. SHEPHERD, ELDON, MO.

Deterioration and loss is the inevitable outcome of the practice of miscellaneous breeding of immature animals on the farm.

The cultivated crops should be put in the best condition possible before harvest begins. Generally it is better to hire extra help rather than to go into harvest with the crops needing cultivation.

In the dairy, feeding and general care and management have as much to do with increasing the product of individual animals as breeding or blood, yet good blood should not be overlooked.

WEEKLY WEATHER CROP BULLETIN

Weekly weather crop bulletin for the Kansas Weather Service, for the week ending May 30, 1905, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

The weather has continued cool with much cloudiness, the temperature for the week being below normal. The precipitation has been abundant, there being but few localities that did not receive ample rains. The rainfall has been heaviest along the Smoky Hill and Kaw Rivers, and hail-storms occurred in many of the counties along these rivers.

RESULTS.

EASTERN DIVISION.

Wheat is in good condition; it is in bloom in the southern counties and is heading in the northern; in Pottawatomie County it suffered from a hail-storm. Corn grows slowly, the weather having been too cool and cloudy; it has been cultivated once and much of it twice, and in Wilson County is knee-high. Some damage has been done by washouts, and in Pottawatomie by hail. Oats have improved considerably in many counties, especially in the northern; they are heading in the central and southern counties, but a little short. Alfalfa-cutting has been interfered with by rains and much of that cut has been damaged. Grass and pastures are fine. Potatoes are being marketed in many counties and are very good. Apples give good promise in several counties but are falling in others (some complaint of having been too numerous on the trees). Strawberries are ripe and very abundant. Cherries are ripe in the southern counties and ripening in the central.

Anderson County.—Wheat all headed and bloom mostly gone; corn damaged by washing; pastures doing very well.

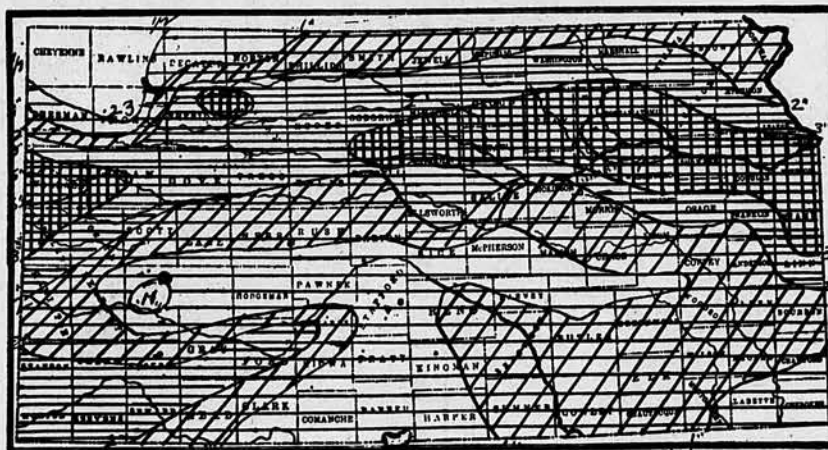
Atchison.—Crops growing well. Brown.—Wheat in fair condition; heading short; corn not doing well on account of cool weather; cultivation delayed by wet weather; oats improving and in fair condition; pastures and meadows doing well; strawberries ripe and good crop expected.

Chase.—Beneficial rains; all small grain heading and in bloom; potatoes very promising; alfalfa being cut; corn being cultivated and looking well; replanting completed; blue-grass backward; gardens doing well.

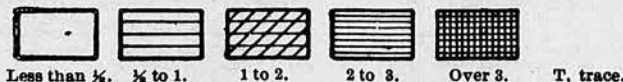
Chautauqua.—Wet, cool week; wheat headed; alfalfa badly damaged; corn cultivation delayed by wet weather; grass in fine condition; stock doing well; small fruit and garden truck doing well; oats in good condition.

Cherokee.—Farmwork delayed by wet weather; wheat and oats look well; corn crowing but ground becoming weedy; potatoes promise

Rainfall for Week Ending May 27, 1905.



SCALE IN INCHES:



well; pastures good; strawberries injured by damp weather; apples give fair promise. Coffey.—Beneficial rains; large crop of strawberries.

Crawford.—Farmwork delayed by wet weather; some corn in need of cultivation; wheat in fairly good condition; oats somewhat backward but are doing well and beginning to head; gardens doing well; strawberries in fine condition and plentiful; apples falling to some extent; potatoes doing well; tame hay will be short, especially clover.

Doniphan.—Wheat improving and is heading; corn making slow growth; oats give fair promise; gardens and pastures doing well.

Elk.—Farmwork hindered by wet weather; much alfalfa damaged.

Franklin.—Rains beneficial to crops.

Greenwood.—Fruits and vegetables growing well; tame and wild grass making good growth; alfalfa being cut; corn looking well

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CHAS. A. WILBUR, Agent for Shawnee Co

111 W. 6th St., TOPEKA, KANS.

Successor to R. A. Richards.

fine. Home-grown potatoes in market; all crops need warm weather.

Shawnee.—Some damage to corn by washing during recent heavy rains.

Wilson.—Weather too wet for good growth of crops and too old for corn especially; wheat in fairly good condition; potatoes doing well; pastures good; oats beginning to head; English blue-grass heading and looking well; alfalfa being cut; cattle in good condition; farmwork delayed.

Wyandotte.—Strawberries ripe and promise fair crop; gardens doing well; almost all wheat headed and doing well; corn not showing good stand; potatoes beginning to bloom.

MIDDLE DIVISION.

Wheat has headed in some of the counties and is heading in the others; it is in good condition in most of the counties but in poor condition in a few and has suffered from hail in Clay, Ellsworth and Sedgewick Counties. It is in bloom in Sumner. Corn growth has been retarded by the cool, wet, cloudy weather; some replanting has been necessary. Oats are heading short in the southern counties but are improving in the central. Potatoes are very good and abundant. Alfalfa-haying has been retarded by the wet weather and much of that cut has been damaged. Apples are promising, though in Butler many are dropping. Cherries are ripe and abundant in the southern counties. Strawberries are ripe, fine and very abundant. Hail did some damage in Clay, Ellsworth, Ottawa, Russell and Sedgewick Counties. Grass fine; pasture very good.

Barber.—Alfalfa-haying delayed by wet weather; wheat prospects poor; barley doing

count of wet weather; the stand of corn is very uneven and in some places replanting is necessary; warmer weather is needed for good growth of this crop but cultivation has been progressing; pastures and gardens are doing well.

Montgomery.—Cool, wet week; corn is small but has good color; wheat well headed; oats short and shows thin stand; pastures and gardens in fine condition; new potatoes in market; strawberries abundant; early cherries ripe.

Oats, grasses and corn doing well.

Pottawatomie.—Severe hail-storms in south portion of county and heavy rain which did great damage to corn, wheat and gardens; much corn will be replanted, some of it for second time; alfalfa haying commenced; fruit badly damaged by hail.

Riley.—Heavy rains washed corn badly and replanting will be necessary. Strawberry crop

well; oats in poor condition; too cold for good growth of corn or cane.
Barton.—Beneficial rains; wheat much improved; alfalfa hay damaged; spring-sown alfalfa in good condition; potatoes doing very well and some in bloom; peaches poor; apples promising.

Butler.—Unfavorable weather for crops at present although general prospect is good; apples and cherries dropping more than expected and prospect of poor crop; corn looking well; pastures good.

Clay.—Much damage by hail-storms and some wheat fields sustained great injury; wheat prospects not so good; first cutting of alfalfa damaged by rain; oats in good condition.

Cloud.—Wheat in poor condition and damaged by dry weather and fly; some alfalfa cut during early part of week.

Cowley.—Wet weather during week; wheat, oats and grass improved by rain but corn is in need of warmer and dry weather; fruit plentiful.

Dickinson.—All crops doing well although cultivation is not progressing rapidly; alfalfa cut and badly damaged; potatoes plentiful; gardens looking well; wheat on uplands apparently deteriorating; pastures still in good condition.

Edwards.—Wet weather; strawberries ripening; gardens in very good condition; corn not doing well on account of the wet weather.

Ellsworth.—Hail in some portions of county and some wheat reported damaged; otherwise the wheat is in good condition.

Jewell.—Corn shows generally good stand although some has been replanted; alfalfa ready to bloom; not so tall as it was last year.

Lincoln.—Some wheat very short; heads short and thin on the ground; too cold and wet for corn and other crops; corn ground becoming very weedy; much alfalfa cut and damaged by rain; potatoes doing well; good prospect for apples.

McPherson.—Wheat heading very short; oats improving; much alfalfa damaged by rains after first cutting; corn growing slowly and being cultivated; not so potatoes in market; strawberries abundant.

Osborne.—Wheat greatly benefited by recent rains; corn up and doing well; alfalfa-cutting will commence in a short time.

Ottawa.—Farmwork at standstill on account of wet weather but all crops are doing well; wheat and oats benefited by rains but corn was injured by washing; alfalfa somewhat light crop; ready to cut; forage crops about all planted; grass in good condition cattle doing well; apples falling badly; strawberries plentiful; large crop of raspberries.

Pawnee.—Wheat almost headed and doing well; corn making slow growth on account of cool weather; pastures good; stock doing well.

Reno.—Beneficial rains; wheat in bloom and looking well generally; oats in only fair condition and heading very short; corn doing well and cultivation progressing; potatoes in good condition; alfalfa mostly cut and some damaged by rain; strawberries abundant; early cherries turning.

Republic.—Beneficial to crops, except corn, which was damaged by washing; much corn to replant; wheat doing well; alfalfa nearly ready to cut.

Rooks.—Wheat prospects very good; oats small but show good stand and color; corn shows good stand and is being cultivated; alfalfa in good condition and cutting commenced.

Rush.—Wheat improved by recent rains, headed and doing well; corn and spring crops retarded by cool weather; potatoes doing well; fruit prospects good; hail in northwest portion of county.

Russell.—Beneficial rains; wheat doing well although suffered some injury from hail in northern portion of county; wheat short but heads long; corn doing well except in southwestern portion of county, where rain is needed; early potatoes doing well; pastures good; cattle doing well.

Saline.—Corn growing slowly; reports of some damage to wheat; alfalfa-cutting begun. Sedgwick.—Wheat, corn, and oats doing well; cherries, strawberries and garden truck plentiful; good prospect for apples; some wheat injured by hail in northern portion of county.

Stafford.—Beneficial rains; wheat heading; pastures good.

Sumner.—Wheat and oats not much improved by rains but potatoes, alfalfa and garden truck are doing well; strawberries nearly all gone; cherries coming into market; first crop of alfalfa cut and some damaged by rain; oats heading very short; corn doing well.

Washington.—Wheat doing well but too cool for oats and other small grain; slow growth of corn and much replanted; alfalfa in bloom; pastures good; potatoes growing well.

Harper.—Wheat improved by recent rains; good crop on sandy land; on hard land it is thin and short but has long, well-filled heads; oats much improved and corn doing well.

Kingman.—Wheat in bloom and looking well but is short; much smut in evidence; corn backward but looking well; grass growing well; potatoes in bloom and making good growth.

WESTERN DIVISION.

Wheat has been improved by the wet weather; it is headed in the southern counties and is heading in the northern. Corn growth is slow on account of the cool weather; it is not all planted yet in the extreme northern counties, though the early planted is up. Oats and barley have been benefited by the rains. Potatoes are very good. Range-grass is fine. Alfalfa has made good growth; it is in bloom in the southern counties and almost in bloom in the northern. Forage crops are being planted. Hail did some damage in Ness and Wallace Counties.

Clark.—Beneficial rains; wheat improved. Decatur.—Corn-planting retarded by wet weather; early planting up but growing very slowly; wheat heading; alfalfa making vigorous growth and almost in bloom; range-grass in good condition.

Finney.—All growing crops in good condition; wheat headed.

Kearney.—Good weather for grass and cattle during past week; alfalfa beginning to bloom; all crops in good condition and promising.

Lane.—Wheat, oats and barley benefited by recent rains; other spring crops backward on account of cold weather.

Morton.—Wheat in northern half of county reported very promising; planting of forage crops progressing.

Ness.—Beneficial rains during past week but farmwork has been delayed by the wet weather; wheat doing well and heading fast; barley heading; potatoes budding; gardens doing well; slight damage from hailstorm.

Norton.—Corn-planting nearly all done; large acreage of Kafir-corn planted; corn does not show good stand and some replanted; rye all headed and wheat commencing to head; no rust showing thus far.

Sheridan.—Too wet for farmwork; early sown fall wheat heading out with somewhat small heads; straw all lengths in same field and prospect for crop is not good; weather too cool and wet for good growth of corn; alfalfa doing well.

Thomas.—Cool, wet weather except in a few places in which wheat is beginning to need more rain; wheat and barley doing well generally; some corn badly washed.

Trego.—Wheat and small grain benefited by recent rains.

Wallace.—Cool, wet weather; some damage to crops by wind and hail; some corn and forage crops washed out by heavy rain; fruit and gardens damaged; range-grass doing well.

The Markets

Kansas City Grain Markets.

Offerings of wheat were smaller than a week ago and included a fair share of milling samples. The demand was moderate. Most sales were made at 1c to 2c lower prices.

The railroads reported 58 cars of wheat received, compared with 73 cars a week ago; a year ago, holiday. Sales of car lots by sample on track, Kansas City: Hard wheat—No. 2, 3 cars \$1.02½, 5 cars \$1.03, nominally \$1.00@1.03½. No. 3 hard, 1 car \$1.02, 5 cars \$1.01, 3 cars \$1.00½, 3 cars \$1.00, 2 cars 97c, nominally 92c@1.02. No. 4 hard, 1 car 95c, 1 car 94c, 3 cars 93c, 3 cars 92c, 3 cars 91c, 5 cars 90c, 6 cars 88c, 1 car 85c, 2 cars 83c, nominally 82c@95c. Rejected hard; nominally 65c@80c. Live weevilly hard, 1 car 90½c. Soft wheat—No. 2 red, nominally \$1.00@1.04. No. 3 red, nominally 92c@1.02. No. 4 red, 1 car 97c, 1 car 90c, nominally 82c@97c. Rejected red, 1 car 80c, nominally 65c@90c.

Corn prices were off ½c early, but recovered quickly and closed firm. The demand was good. Receipts were smaller than a week ago. The railroads reported 103 cars of corn received compared with 170 cars a week ago; a year ago was a holiday. Sales of car lots by sample on track, Kansas City: Mixed Corn—1 car yellow 47½c, 1 car 47c, 3 cars yellow 46½c, 10 cars 46½c, 12 cars 16½c, 3 cars 46½c, 1 car 46c; No. 3, 3 cars 46½c, 3 cars 46c; No. 4, nominally 45c@45½c; rejected, 1 car 43c. White Corn—No. 2, 2 cars 47½c; 1 car 47½c; 1 car 47½c, 3 cars 47c, 9 cars 46½c; No. 3, 1 car 46½c. At ¼c to ½c lower prices oats were in fair demand. Receipts were rather large.

The railroads reported 23 cars of oats received, compared with 12 cars a week ago; a year ago, holiday. Sales of car lots by sample on track, Kansas City: Mixed oats—No. 2, 1 car 31½c, 2 cars color 31½c, 1 car color corn mixed 29½c; No. 3, 1 car 31½c, 2 cars 31c, 1 car corn mixed 29c; No. 4, 1 car 29c. White oats—No. 2, 1 car 33c, 1 car 32½c, 3 cars 32½c; No. 3, 1 car 32½c, 1 car color 31½c. Rye—No. 2, 1 car fancy Colorado 72½c, nominally 65c@72½c. Corn-chop—Nominally 91c, in 100-lb. sacks.

Timothy—Nominally \$2.55 per 100 lbs. Flaxseed—Nominally \$1.20. Bran—I bulkhead car 73½c. Shorts—I bulkhead car 73c. Barley—No. 3, nominally 41c. Millet—German, \$1.40@1.50; common, \$1.25 @1.35 per 100 lbs.

Red clover and alfalfa—\$9.00@11.50 per 100 lbs.

Cane-seed—Nominally \$1.10.

Kafir-corn—Nominally 75c@78c per 100 lbs.

Linseed cake—Car lots, \$27.00 per ton; ton lots, \$28.00; per 1,000 lbs, \$15.00; small quantities, \$1.60 per cwt. Bulk oil cake, car lots, \$26.00 per ton.

Castor beans—\$1.35 per bushel in car lots.

Kansas City Live Stock Market.

Kansas City, Mo., Monday, May 29, 1906.

—Extra heavy runs of cattle last Tuesday and Wednesday broke prices 15 to 40 cents, and liberal supplies the following days gave the market a weak tone up to the closing day. This morning, however, supplies are light at all the markets, as a result of the heavy declines of last week, and prices today are steady to 10 cents higher. The packers bought freely last week, and ended up with a good supply on hand, so that their demands for a few days will not be urgent at all; at the same time no decline can be forced with receipts as small as they are today, and the buyers are willing to take them on the present basis. They expect to have to pay more later in the week, if small runs continue.

The main cause of the big decline last week in the cattle market was the excessive proportion of beef steers on Tuesday. Also more cheap grades of cattle appeared in the Quarantine division, from Southern Texas, than anybody expected, and the combination gave buyers the whip hand. Killing steers lost 25 to 40 cents, stockers and feeders went down with them, but cows and heifers, and butcher stuff, lost only 15 cents to a quarter. One drove of cattle sold last week at \$6.25, but otherwise top each day was under \$6.00, and bulk of beef steers sell at \$4.75@5.60. Top today \$5.60. Heifers sell at \$3.75@5.00 cows \$3.25@4.60, bulls \$2.75@4.50, veals \$4.50@5.50, about the same as a week ago, stockers and feeders \$3.25@4.75. Prospects are encouraging today, and the market should keep steady this week, or even do a little better, unless too many cattle appear.

Hog markets held almost steady last week, in spite of the heavy runs nearly every day. Supplies have been running short of same period last year, but last week showed an increase, a total supply of 67,000 arriving here. Chicago has too many hogs today, and prices are 5 to 10 cents lower as a result. Top here today \$5.27½, bulk of sales \$5.15@5.25. All weights are still selling close together, but hot weather will soon put heavy weights in second place.

Sheep declined 10 to 20 cents last week, lambs remained about steady. Market is steady and active today. Runs have been liberal lately, and present range of prices are pretty high, but there is a very wide market for muttons. Texans form bulk of receipts, and sell at \$4.15@4.75. Some feeding ewes from Texas sold lately at \$2.75, and stock goats sold last week at \$3.25, fat ones \$3.65. Woolled Western lambs sold at \$7.25 today, clipped \$5.75@6.25, native spring lambs up to \$7.25.

J. A. RICKART.

South St. Joseph Live-Stock Market.

South St. Joseph, Mo., May 29, 1906.—There was a large reduction in the aggregate marketing at the five leading points today as compared with last Monday, and as a result, cattle values show a little strength all along the line. With the exception of some common to fair light medium grades that did not meet much competition the trade today ruled 10 to 15 cents higher with more selling higher than otherwise. The demand this week calls for limited receipts, especially in Chicago, but outside points can stand

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisements for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

CATTLE.

FOR SALE—Registered Hereford bulls, good ones, low prices, by H. B. Clark, Geneseo, Kans.

FOR SALE—Seventeen registered Angus bulls, 10 to 20 months old; also a number of cows and heifers at reasonable prices. Will sell my herd bull. Address A. L. Wynkoop, Bendena, Kans.

FOR SALE—10 Registered Galloway bulls, cheap. J. A. Darrow, Route 3, Miltonvale, Kans.

FOUR GOOD HEREFORD BULLS, 15 to 20 months old, at reduced prices if taken at once; also a few younger ones. A. Johnson, Clearwater, Kans.

FOR SALE—Guernsey bulls from best registered stock. G. C. Wheeler, Harlem, Clay Co., Mo.

FOR SALE—Eight good, registered Shorthorn bulls, four straight Cruickshank, good ones, and prices right. H. W. McAfee, Station C, Topeka, Kans.

FOR SALE—A 3-year old Shorthorn bull, bred by Royal Bates. Address Dr. N. J. Taylor, Berryton, Kans.

SEEDS AND PLANTS.

PLANTS FOR SALE—Strawberry, blackberry, dewberry, rhubarb, grape-vines. Write for special prices. Address J. C. Banta, Topeka, Kans.

FOR SALE—Seed Sweet potatoes; 6 kinds; write for prices to I. P. Myers, Hayesville, Kans.

FOR SALE—Speltz, 60c bu. f. o. b. Two registered Galloway bulls. Wheeler & Baldwin, Delphos, Kans., or S. B. Wheeler, Ada, Kans.

SEED CORN—Both white and yellow at 90 cents per bushel; cane, millet and Kafir-corn seeds. Prices and sample on application. Adams & Walton, Osage City, Kans.

FOR SALE—Speltz, 60 cents per bushel; Soybeans, \$1.25; Red Kafir-Corn, 50 cents; sacks free in ten bushel lots. Seed extra nice and clean. C. M. Garver, Abilene, Kans.

HORSES AND MULES.

TO TRADE for good jennets, good registered standard-bred stallion. H. T. Hineman, Dighton, Kans.

STRAY MARE—A black mare came to Wm. Cook's residence, one-half mile east of the city of Downs, Kans., on or about the 10th day of October, 1904, weight about 900 pounds, age about 8 years, worth \$40; branded on the left shoulder; owner or owners will please come, prove property and pay expenses.

SWINE.

DUROC PIGS—Both sexes. Oom Paul (23 times sweepstakes) strain and other good lines of breeding. Selects, no culls for sale. Hillcrest Farm, Greenwood, Mo.

FOR SALE—Say! I have some fine, big-boned, broad-backed Berkshires, brood sows or pigs. Want some? Write me; turkeys all sold. E. M. Melville, Eudora, Kans.

FOR SALE—Boars for immediate use. Sons of Perfect I Know, out of daughter of Ideal Sunshine. Geo. W. Maffet, Lawrence, Kans.

AGENTS WANTED.

WANTED—Capable and energetic man in your county to represent well known and reliable manufacturing establishment, in introducing heavy machinery among farmers and breeders. No previous experience necessary. References and a capital of not less than \$150 will be required. Address M. G. Co., 610 Cherokee St., Leavenworth, Kans.

WANTED—Canvassers for a fruit can holder and sealer. Territory given. J. W. Adams, 741 Tennessee, Lawrence, Kans.

AGENTS WANTED Sell \$1 bottle Sarsaparilla for 25c; best seller; \$20 per cent profit. Write today for terms. F. R. Green, 115 Lake St., Chicago

pretty heavy marketing, as the demand is broad enough to care for more than are arriving. Considering the few cattle on sale, there was a very fair proportion of cows and heifers among the arrivals, and the demand was good for fat cows at steady to strong prices, while cows in a grassy condition were somewhat weaker. Young heifers and young heifers and steers mixed were in fair supply, and the demand was good, prices ruling strong to 10 cents higher. Good fat bulls and bologna varieties were rather dull. Veals were in demand and steady, common to fair being quotable at \$3.00@6.50. The trade in stockers and feeders is very dull. There was very little country inquiry during the latter days of last week, and as a result, all the regular dealers had their pens full, consequently with moderate offerings today they endeavored to take off another 10@15c, thus making a decline of 30c@50c in the past ten days. This applied to almost all classes of offerings except the best, which were only about 15@25c lower. Regular dealers now have on hand a very large number of good to choice yearlings and calves and well bred two's, and the assortment is such that the country can almost find anything to their liking at the low range of prices. This would be an excellent opportunity for those desiring cattle to get in while there are so many to choose from.

Receipts of hogs continue very heavy, and prices are on the down grade. This is in accord with the condition of our previous letters. Prices today range from \$5.15@5.27½ with the bulk selling at \$5.20@5.25. There might be some reaction should receipts let up for a while, but the trade generally considers the high point as reached and values will work lower hereafter; those having hogs ready for market should let them come forward.

The sheep market shows a little lower tendency, but the demand is very active, good light weight Colorado lambs selling today at \$7.15 and shorn lambs at \$6.10; sheep are quotable at \$4.00@6.25.

WARRICK.

FARMS AND RANCHES.

STOCK, CORN AND ALFALFA FARM—One of the best known and most valuable farms in Jewell County, consisting of 480 acres of rich bottom and fine upland, a genuine money maker, will be sold on easy terms. Address R. M. Cauthorn, Mankato, Kans.

FOR SALE—Well improved 240-acre farm, modern house, large barn, only 5 miles out from Sterling. Price, \$12,000. F. C. Purdy, Sterling, Kans.

160 ACRES of level land, mostly in crop, 3 miles from Sterling; \$6,000. Several other places, write for particulars. J. J. Hazlett, Sterling, Kans.

FOR SALE OR TRADE—5 good lots in county seat town in Oklahoma; will trade for western land. Price, \$1,000. Box 27, Waurika, Okla.

FOR SALE—Farm; 360 acres; 160 cultivation, balance fine timber; new 6-room house, cribs, granary, sheds, barn and outbuildings; 3 wells, living water, orchard on public road, 100 miles from St. Louis. Also 657-acre farm, improvements poor, about 200 acres under plow, finest stock farm in state, 3 miles from live railway town. For particulars call or address J. B. Dunkerley, 4745 Hammett Place, St. Louis, Mo.

SOME FINE BARGAINS—480 acres, 60 acres alfalfa, 90 acres bluegrass, 250 acres under plow; fine improvements; a great bargain; price, \$20 per acre. 80 acres, good land, all smooth; moderate improvements; good bargain; price \$200. 320 acres, all closed in, 90 acres bottom; good improvements; 10 acres timber; running water; cheap at \$6,000. 120 acres, small improvements, 70 acres under plow; reasonable; price \$2,000. Garrison & Studebaker, Florence, Kans.; office at Minneapolis, also.

DO YOU WANT to buy a farm ranch, city property, or buy, sell or exchange a stock of merchandise, or want a bargain in some of my wheat farms, write me. F. C. Purdy, Sterling, Kans.

FOR SALE—Good farm and pleasant home, one-half mile from county high-school and city public school, three-fourths of a mile from several churches and stores, 2 grain elevators and stations. Farm consists of 800 acres, adapted to farming and stock raising, good 9-room house, with water, bathroom and good cellar, ice-house, tool-house, barns and sheds sufficient to hold 40 tons of hay and 150 head of cattle and horses, alfalfa, shade and fruit trees. Farm can be divided. Price, \$15 per acre. Call on or address the owner, Box 192, Wakeney, Kans.

BARGAINS in good grain, stock and alfalfa farms. J. C. Burnett, Emporia, Kans.

FOR SALE OR EXCHANGE—Land, merchandise and city property. Let me know what you want to buy sell or trade. A. S. Quisenberry, Marion, Kans.

TWO SNAPS—160 acres cheap; improvements, valley land, 140 acres cultivated; price \$3,200. Small payment down, balance yearly payments. 160 acres, 12-room house, 30 by 40 barn, 85 acres cultivated; price, \$4,500; half down, balance terms. Garrison & Studebaker, Minneapolis, Kans. We also have offices at Florence and Salina. Try us.

FIFTY farms in Southern Kansas, from \$15 to \$70 per acre; can suit you in grain, stock or fruit farms. I have farms in Oklahoma, Missouri and Arkansas for sale or exchange. If you want city property, I have it. Write me. I can fix you out Wm. Green, P. O. Box 966, Wichita, Kans.

FOR SALE—200 acres fine pasture land, 175 acres of it mow land, two miles from Alma, living water that never fails, all fenced. This is a bargain if taken soon. Call on or address Mrs. M. A. Watts, Alma, Kans.

LAND FOR SALE in Western part of the great wheat State. H. V. Gilbert, Wallace, Kans.

Sumner County Farms

Call on or write to C. L. Stewart, Wellington, Kansas for a list of Sumner County Farms.

FARM LOANS

Made direct to farmers in Shawnee and adjoining counties at a low rate of interest. Money ready. No delay in closing loan when a good title is furnished and security is satisfactory. Please write or call.

DAVIS, WELLCOME & CO., Stormont Bldg., 107 West 6th, Topeka, Ks.

SPECIAL BARGAINS

1,170 acre highly improved Eastern Kansas farm to exchange for city property. We have a cash customer for 5,000 to 8,000 acres of Western Kansas land; must be a bargain. We have a telephone exchange which shows 20 per cent net profit for sale. Some good clear real estate to exchange for oil stock in producing company. We make a specialty of exchanges and would like to list anything that you have to trade. The Great Western Brokerage Co., Topeka, Kans.

MISCELLANEOUS.

HONEY New Crop about July 1. Ask for prices. A. S. PARSON, 408 S 7th Street, Rocky Ford, Colo.

SEND 30 CENTS for copy of "Vest Pocket Argument Settler." 1,000,000 facts for ready reference. Invaluable for students and speakers. J. F. Sullivan, 309 South 5th St., Hannibal, Mo.

WANTED—Men and teams to break prairie. Will rent the land or sell it on easy payments. Address, W. W. Cook, Russell, Kans.

WANTED—By married man, no family; thorough practical farmer and stockman, situation as manager or will take a well stocked farm and share profits on basis of half. References furnished and required. Address C. A., Box 13, Lindsborg, Kans.

WANTED—Middle aged woman with no incumbences to do house work in a family of three. R. J. Linscott, Holton, Kans.

FOR SALE—Second-hand engines, all kinds and all prices; also separators for farmers' own use. Address the Geiser Mfg. Co., Kansas City, Mo.

Stray List

Week Ending June 1.

Russell County—F. J. Smith, Clerk. HORSE—Taken up by F. O. Mitchell, in Lincoln tp. (P. O. Russell), April 29, 1906. One dark-bay horse, unintelligible brand on left shoulder; valued at \$30.

Sumner County—C. B. Macdonald, Clerk. FILLIES—Taken up by J. H. Harrison, in Caldwell tp., April 21, 1906, one black filly, valued at \$20; also one bay filly, 3 legs white; valued at \$30.

DUROC-JERSEY SWINE.

D. M. TROTT ABILENE, KAN., famous Duroc-Jerseys, Poland-Chinas.
COUNTY SEAT HERD Duroc-Jersey Swine.
 Geo. Briggs & Son, Clay Center, Neb.
 Young stock for sale.

DUROC-JERSEYS—Large-boned and long-bodied kind. A fine lot of fall pigs (either sex) for sale. Prices reasonable.
 E. S. COWEE, R. F. D. 2, Scranton, Kans.

MAPLE AVENUE HERD
Duroc-Jerseys
 J. U. HOWE, Wichita, Kansas
 Farm two miles west of city on Maple Avenue

DUROCS Spring pigs, sired by five leading males, either sex or pairs after weaning. Bred sows for fall litters. John Schowalter, Cook, Nebr.

FAIRVIEW HERD Duroc-Jerseys
 Now numbers 150; all head for our two sales, October 25, 1904, and January 31, 1905.
 J. B. DAVIS, Fairview, Brown Co., Kans.

THE OLD RELIABLE KLONDYKE HERD.
 Duroc-Jersey Swine, Shorthorn Cattle and B. P. Rocks. FOR SALE—Two September 27, 1904 males. Eggs 75 cents per 15; or \$4 per 100.
 Newton Bros., Whiting, Kansas.

GOLDEN RULE STOCK FARM
 LEON CARTER MGR., Asherville, Kans.
 Gift-edged Duroc-Jersey Swine.

Wheatland Farm Herd
DUROC-JERSEYS
 For Sale—Fall gilts, tried brood sows, bred and open and spring pigs of either sex.
 GEO. G. WILEY & SON, South Haven, Kans.

The Famous Fancy Herd
DUROC JERSEY SWINE
 A few gilts and 7 fine young boars for sale. Breed sow sale at Concordia, Feb. 21, 1905.
 JNO. W. JONES & CO., R. F. D. 3, Delphos, Kan.

FOR SALE
 75 head of pedigree Duroc-Jersey spring pigs, boars or sows, no akin, good color, well built, very cheap, order now from
CHAS. DORE, Route 16, Osage City, Kans.

ORCHARD HILL HERD
OF Duroc-Jerseys
 Gilts all sold. A few excellent males left yet.
 R. F. NORTON, - Clay Center, Kans.

DUROC-JERSEY HOGS.
 All stock registered. Pigs for sale weighing 150 to 200 pounds, both sexes. Will have sows for early farrowing at \$30 each. Spring males and gilts, \$10 to \$15. Address
 Mr. & Mrs. Henry Shrader, Wauwata, Kans.

PLAINVILLE HERD
DUROC-JERSEYS
 For sale, an extra fine lot of young boars large enough for service. Bronze turkeys, Barred Plymouth Rocks and Brown Leghorn chickens for sale.
 J. M. YOUNG, Plainville, Kans.

DUROC-JERSEYS
 A few Gold Dust gilts of the big-boned, hardy variety and out of large litters bred for April farrow.
BUCHANAN STOCK FARM, Sedalia, Mo.

MINNOLA HERD
DUROC-JERSEY SWINE
 Prince 1779 and Red Rover 2765 at head of herd. Young boars and bred and open gilts for sale.
 L. A. KEELER, Route 7, Phone 591 C, Ottawa, Kans.

Rose Lawn Herd Duroc-Jerseys
 Now offering males only. Bred sows and gilts reserved for Feb. 23, 1905 sale. Visitors welcome and prices right. Can ship on Santa Fe, Mo. Pacific and Rock Island railroads.
 L. L. Freeman, Hope, Dickinson Co., Kans.

POLAND-CHINA SWINE.

Kansas Herd of Poland-Chinas. W. R. C. Leghorn eggs. F. P. Maguire, Hutchinson, Kans.

FOR SALE Poland-China Hogs, Holstein-Friesian Cattle, either sex. Best strains represented. H. N. HOLDEMAN, Rural Route No. 4, Girard, Kansas.

THE ELM GLEN FARM
HERD OF POLAND-CHINAS
 Eight choice young boars, bred and open gilts, good size and finish; first draft for \$20; take choice of boars. WM. KNOX, SOUTH HAVEN, KANS.

Elm Grove Stock Farm Poland-Chinas.
 Herd headed by Nonpareil 86105A. Sweepstakes boar at Missouri State Fair, 1904. Can spare a few choice sows bred for May and June farrow.
 F. A. DAWLEY, Waldo, Kans.

Pecan Herd of Poland-Chinas
 Model Tecumseh 64188, American Royal (8) 80788, and Best Perfection 81507 at head of herd. Write us your wants.
 J. N. Woods & Son, Route 1, Ottawa, Kans.

DIRGO BREEDING FARM
 J. R. Roberts, Proprietor, Deer Creek, Okla.
 Breeder of Poland-Chinas of the leading strains. Stock of all kinds for sale at all times. Satisfaction guaranteed. Write us and we will tell you what we have.

HIGHLAND FARM HERD OF PEDIGREED
POLAND-CHINAS

Twenty serviceable boars at special prices for next 30 days, sired by Black Perfection 57122, Black Perfection 5894, Perfection Now 12895, and Ideal Perfection. They are healthy and good-boned pigs, with plenty of flesh. Write me description of what you want and I will guarantee satisfaction.
 JOHN BOLLIN, Route 5, Leavenworth, Kans.

POLAND-CHINA SWINE.

MAPLE VALLEY STOCK FARM
 Pure-bred Poland-Chinas from leading strains. Visitors welcome and correspondence solicited. Satisfaction guaranteed. C. F. Brown, R. 2, Whiting, Kans.

POLAND-CHINAS
 For Sale—June gilts, sired by Corwin's Model. This stock is first-class. Weight from 150 to 200 pounds. Prices quoted on application.
 Dave Stratton, Route 1, Walton, Kans.

Spring Creek Herd
Poland - China Swine
and Hereford Cattle

Some fancy pigs for sale sired by On and On and Chief Perfection 2nd and Corrector. Inspection and correspondence invited. Phone Line 8.
 G. M. Hebbard, Route 2, Peck, Kans.

Main's Herd of Poland-Chinas
 Empire Chief 30379, heading champion herd and winner in class at Iowa and Nebraska State Fairs. He is of great size and finish. Sire Chief Tecumseh 3d and out of Columbia 2d. The combination that produced so many State fair champions. A grand lot of sows bred to him; and summer boars for sale at reduced rates. Try me for quality and prices.
 JAMES MAINS, Oskaloosa, Jefferson Co., Kan.

ROME PARK POLAND-CHINAS
and BERKSHIRES.

I have about twenty boars ready for use and twenty-five sows bred, and some unbred, and a large number of good pigs, both breeds.

T. A. HUBBARD, (County Treasurer Office.)
 Wellington, Kans.

GUS AARON'S
POLAND-CHINAS
 Route 5, Leavenworth, Kans.

Choice young boars of April and May farrow sired by Beauty's Extension, for sale. Also bred sows and gilts, all with good colors, bone, fancy head and ears. The head boar, Beauty's Extension 27966, for sale. Some snaps here. Visitors welcome. Mention Kansas Farmer and write for prices.

CLEAR-CREEK HERD OF
POLAND-CHINAS

For Sale, at bargain prices, from now till January 1, 1905, four boars ready for service, sired by Sherman's Corrector, a half brother to Corrector 2d, the reserve champion at the St. Louis Exposition, and out of up-to-date bred sows. Also a bunch of boars equally as well bred, sired by six good herd boars, and out of matured sows.

E. P. SHERMAN,
Wilder, - - Kansas

CHESTER WHITE SWINE.

D. L. BUTTON,
 Elmont, Shawnee Co., Kan.
 Breeder of Improved Chester-White swine. Young stock for sale.

O. I. C. SWINE
 Have for sale a few choice boars of serviceable age; booking orders now for spring pigs. Write for prices. Satisfaction guaranteed.
 S. W. ARTZ, - LARNED, KANSAS

High Point Stock Farm

I have choice O. I. C. and Duroc-Jersey males. Also bred O. I. C. and Duroc-Jersey gilts for sale. B. P. Rock cockerels and eggs in season. Write or come and see

J. R. EBERT,
 Route 3, Hunnewell, Kans.

O. I. C. HOGS

A. G. McQUIDDY,
 501 East South Fourth Street, Newton, Kans.
 Handles the great George Washington breed from the famous Silver Herd of Cleveland, Ohio. For particulars and prices write to the above address.

O. I. C. HOGS.
300 Beauties, all ages.

We take the lead, others follow. We were the first western breeders to take up the O. I. C.'s, consequently have advanced our herd to a place above all others. We have spared neither time nor money in perfecting this breed. Write your wants and we will be pleased to give you information.

Scotch Collie Dogs.
No Pups for Sale.

Brandan Noble, Cragmores Wonder, Laddie McGregor, at stud. Write for terms. We assure you we can please you. We are selling more Collies than any firm in America. We guarantee satisfaction.

WALNUT GROVE FARM, Emporia, Ks.
 H. B. NUTTING, Proprietor.

CHESTER WHITE SWINE.

O. I. C. SWINE
 Six Miles from Kansas City



Take the Argentine car at Stock Yards and get off at 8th and Strong Avenue, where you can get Free Delivery to our farm. If you cannot inspect our herd write us. We wish to impress you with the fact that we have

15 Head, both sexes, August and Oc Farrow Strong and growthy.

Also have a number of spring pigs ready to ship.

ALVEY BROS., Argentine, Kans.

BERKSHIRE SWINE.

CEDAR LAWN BERKSHIRES
 My sows are sired by Elma's Prince 64778, and Berryton Duke 72946. Boar at head of herd, Jurists Topper 76277. Wm. McADAM, Netawaka, Kan.

BERKSHIRES

From the best breeding that can be had, for sale at all times. Male and female, bred and open. Prices and breeding that will suit you.

J. P. SANDS & SONS, Walton, Kans.

Ridgeview Berkshires

Boars of July and August, '04, farrow for sale, sired by Forest King 72688. Orders booked for spring pigs.

MANWARING BROS.,
 Route 1, Lawrence, Kans.

WHITE HOUSE HERD
BERKSHIRES.

GEO. W. EVANS, Prop. MERRIAM, KANS.
 W. S. BOWE, Manager Rural Route.

Herd consists of Cherry Blossom, Royal Majestic, Artful Belle, Longfellow, Riverside Lee and Silver-tip strains. Choice young stock for sale. Visitors always welcome.

SUTTON'S BERKSHIRES
 Imported Blood

25 extra choice Boars, 100 to 150 pounds.
 40 extra choice Gilts, 100 to 150 pounds.
 Fancy heads, strong bone and all-around good ones. Bargains at \$15 to \$25 to close quick.

CHAS. E. SUTTON, Russell, Kans.

BERKSHIRES

I have purchased the great S. B. Wright herd, of California—are of the best in America, and the best sows and boars I could find in Canada, and have some fine young boars by several different herd boars. Can furnish fresh blood of high quality.
 Eight pure Collie pups, cheap.

E. D. KING, Burlington, Kans.

KNOLLWOOD
BERKSHIRES

Pacific Duke 56691, the 1,000 pound champion show and breeding boar from herd of S. B. Wright, Santa Rosa, Cal., bred by N. H. Gentry; Model Princess 60124, by Halls 60125, sweepstakes Pan-American sow; Stumpy Lady 62409 by Combination 64028, sweepstakes Kansas City and Chicago 1902. Lee's Model Princess 62614, the \$180 daughter of Governor Lee 47971; Lady Lee 99th 65035, the \$160 daughter of Lord Premier 50001, and other "Blue-Bloods." Sows bred to 3 grand boars and young stock for sale.

E. W. MELVILLE, Eudora, Kans.

TAMWORTH SWINE.

TAMWORTHS

Ready for sale, consisting of 50 fall and spring gilts, that can be bred to any one of the three different herd boars, Mark Hanna, Red Stock Jelly, and a fine herd boar from Illinois. Also 40 young boars for sale for spring farrow.

C. W. FREELOVE,
 Clyde, Kansas.

SHEEP.

ELMONT HERD
SHROPSHIRE SHEEP.

Herd headed by Huntsman 158985 and Marshall 176211. Choice young bucks ready for service, for sale, also extra good spring ram lambs. All registered

JOHN D. MARSHALL,
 Walton, Kansas.

SHORTHORN CATTLE.

Plainville Shorthorn Herd

Headed by Prince Lucifer 188685
 A pure Scotch bull.
 Stock for sale at all times.
 N. F. Shaw, Plainville, Reels Co., Kans.

ROCKY HILL HERD
SHORTHORN CATTLE.
 J. F. True & Son, Perry, Kans.

D. P. NORTON'S SHORTHORNS.
 Dunlap, Morris County, Kansas.
 Breeder of Pure-bred Shorthorn Cattle.
 Herd bull, Imported British Lion 133992. Bull and heifer calves at \$50.

Meadow Brook Shorthorns
 Ten fine young bulls for sale—all red. Red Laird, by Laird of Linwood, at head of herd.
 F. C. KINGSLEY,
 Dover, Shawnee County, Kansas.

MAPLE GROVE SHORTHORN HERD
 BARKER No. 129324
CRUICKSHANK HERD BULL.
 Sirey 849 of Vol. 40, Rose of Sharon blood, Norwood Barrington Duchess 654 Vol. 50, Bates blood. Pure-bred registered bulls for sale.
 OSCAR DUEHN, Clements, Kans.

Silver Creek Shorthorns

The imported Minnie bull, Aylesbury Duke 159763 and the Cruickshank bull, Lord Thistle 129960, in service. A few bred yearling heifers by Imp. Aylesbury Duke are now offered for sale. These heifers are in calf to my Cruickshank bull, Lord Thistle.

J. F. STODDER,
BURDEN, COWLEY COUNTY, KANS.

GLENWOOD HERDS
Shorthorns and Poland-Chinas

Grand array of Scotch herd bulls. Victor of Willwood 126054, Prince Pavonia 216307, Happy Knight by Gallant Knight 124468, and Charm Bearer. Good bulls and females always for sale. Show material. Visitors welcome.

C. S. NEVIUS, Chiles, Miami Co., Kans. i
 Forty miles south of Kansas City.

ALYSDALE HERD
SHORTHORNS

Headed by the great Cruickshank bull, Prince Consort 187008, sired by Imported Prince of Perth 153879, and out of own sister of Lavender Viscount 124755.

YOUNG STOCK FOR SALE
 Sired by such bulls as Lord Mayor, Mayor Valentine, and Proud Knight.

C. W. MERRIAM,
 Columbian Bldg., - Topeka, Kans.

Pearl Shorthorn Herd

Have a choice lot of young bulls, Scotch and Scotch-topped. About twenty are now ready for light and heavy service. Get prices and description. Sired by Baron Ury 24 124970, Sunflower's Boy 127387, and Bold Knight 179064.

C. W. TAYLOR,
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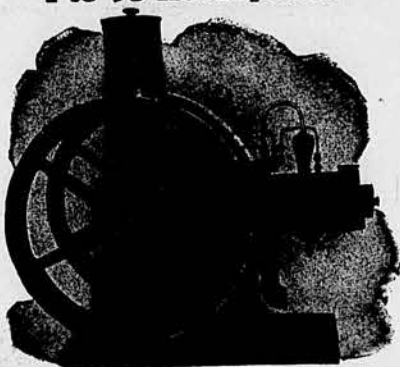
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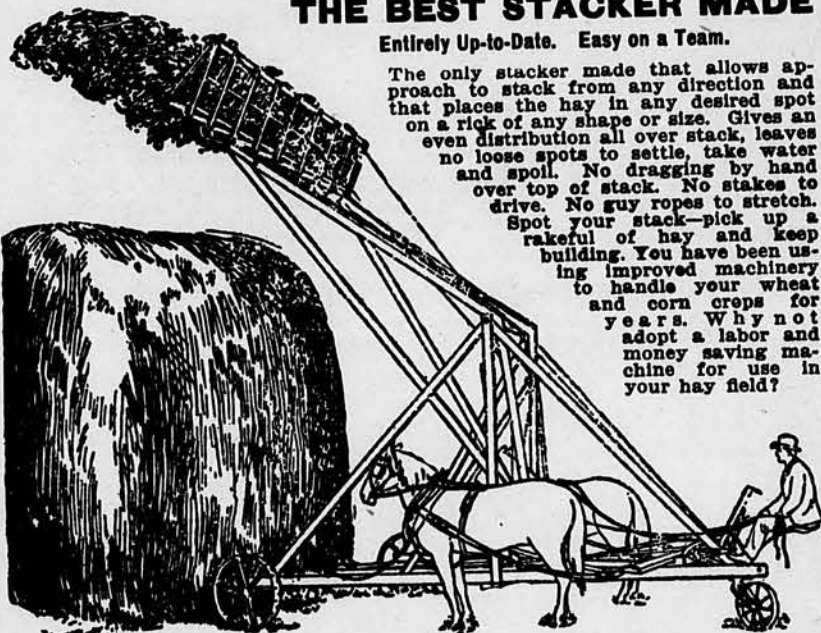
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Lithographed in 6 Brilliant Colors, Size 21 inches by 28 inches.

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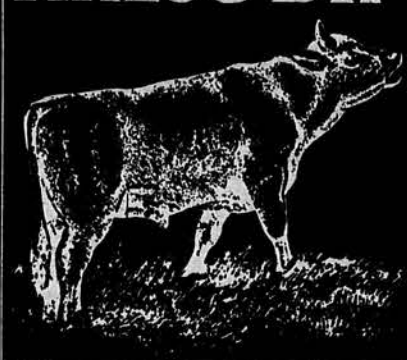
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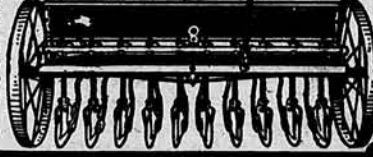
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