

KANSAS FARMER

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THE ASSET CURRENCY PROPOSITION.

On no question of finance have the plain people of the United States and the speculators of Wall Street come into more pronounced opposition than on the Wall Street proposition for "asset currency." Briefly stated, the plan of these speculators is to have the law so changed as to authorize banks—possibly National banks only—to have issued for them paper money, they pledging their assets for the redemption of their notes, these issues to be taxed at so high a rate that they will be retired on the cessation of high rates of interest due to extraordinary demands for money. At present bank notes are issued only on the deposit with the Comptroller of the Currency of Government bonds of face value equal to the bank notes issued.

The plea for the additional privilege of issuing asset currency is based upon the supposed need of "flexibility" in the volume of money. It is said, adroitly, that great additions to the usual stock of money are called for periodically to move the crops. It is undoubtedly true that when the West markets its year's harvest, those who buy the stuff are obliged to put up a good deal of money. The movement of this money to the West to buy the necessities of life causes a considerable reduction in the amount that can be borrowed to carry on the various stock gambling operations whereby Wall Street fattens off the rest of the country.

But the fact that the proposed asset currency is wanted chiefly for these operations of a gambling nature is not the only objection to it. The old Greenbackers in their day pointed out the fact that fluctuations in the volume of the money produce corresponding fluctuations in general prices. This has been verified by the course of prices accompanying the great increase in the volume of gold and paper money that has been in progress for the last few years. While the increased activity of business that always accompanies rising prices is rather generally admitted to have some connection with the increasing volume of money, it is customary for financiers to deny that the reverse condition is ever attributable to reduction in the volume of money in circulation.

The great dangers in the asset currency proposition are, first, the risk as to the ability of the banks to redeem their notes in a time of stringency; second, the inflation of prices certain to follow large increases in money in boom times; and third, the severe contraction of prices and the lassitude of industry certain to follow the rapid retirement of this currency as soon as the demand for it should fall so low as to reduce interest to a point at which it would not be profitable to pay the tax on this issue. All panics are accelerated by the retirement of money from circulation. In the case of all Government issues, somebody must buy or borrow the money before it can be taken out of circulation. In the case of bank issues, a bank's liabilities are reduced when its notes reach the comptroller and are cancelled, and in times of stress the banks omit to ask for reissues. In the case of the proposed asset currency, they would also save the tax proposed for the purpose of limiting the amount of such money that a bank would take out.

It was stated by those well informed in 1893 that rich speculators, whose interest for the time was on the side of depression of prices, borrowed enormous sums of money for the purpose of taking it out of circulation. Asset currency, as proposed, would not have

to be borrowed. It would go out of existence of its own accord in such times as those of 1893, thus saving the hyenas of finance the expense of borrowing it to take it out of the market.

It is safe to say that should the scheme for asset currency succeed, unscrupulous and shrewd schemers will be ready to use its flexibility to pile up great fortunes on the wrecks of the fortunes of the industrious and honest.

KANSAS, THE FERTILE LAND.

In writing of his observations en route from Topeka, Kans., to Long Beach, Cal., Horace B. Cowgill, son of the editor, says:

"The desert vegetation was interesting as far as it went. Kansas was the most fertile of all the country on the trip till we reached the irrigated fields of California, and except for irrigation, Southern California would be the worst desert of all, I think. In Kansas there were cultivated fields, but farther west there was only pasture land. Then the cattle became fewer and poorer and there were more sheep and goat ranches. It is hard to see what the sheep and goats live on, for there is very little grass, the vegetation being mostly sage-brush, yucca, mesquit, and scrub cedar. Farther west the yucca became the chief crop. It grows differently there than it does in the prairies of Western Kansas. It grows higher than a man's head and looks like shocks of corn. This is caused by the lower leaves dying down and others growing above them. It is like the common yucca, growing on a high pedestal or stalk. The flower-stalk grows up in the middle of the plant to a great height—in some instances the top of the flower-stalk is nearly as high as the telegraph-poles.

"Western Arizona and Eastern California have three points of interest—the Salton Sea, the tree-cactus, and the wandering hills. These all look about as one would imagine. The Salton Sea looks like any other body of water except that it shows its youth. The vegetation which lines its shore is desert rather than aquatic. There is some debris floating on its surface and a row of telegraph-poles disappears into the water at one end and appears at the other, marking the former line of the railroad."

SEED-CORN.

The mildness of the weather thus far has probably left the vitality of well-matured corn with little if any impairment. Colder weather may be expected soon, however, and its effect on the stand of corn in 1907 will doubtless be such as to reduce the yield some hundreds of thousands of bushels below what it would be were the seed-corn selected now and well dried and protected from extreme changes of temperature, in a dry place. It is not possible to forecast the share of this loss that will fall upon each individual reader of these remarks, but when it is considered that it is a loss that may be cheaply guarded against it seems a pity that it should be suffered at all.

But a few ears of good corn are necessary to provide seed for an acre. Not very many are required for ten acres. The selection of four times enough seed-corn to plant forty acres is a work of only a few hours. To select four times as much as will be needed is wise. On studying the individual ears selected it will be found that some are much more desirable in type than others. Not a very rigid sorting will be needed to reduce the original selection to one-half of its bulk. If care be taken to examine the corn for uniform-

ity of size and shape of grains, the sorting may easily reduce the grain to twice the amount required. Every corn-grower will find it profitable to carry over for final testing at least twice as much seed as he expects to plant.

The work of testing for vitality comes later in the season.

Experimenters have found that the ear may well be taken as the unit in selecting seed-corn. A well-formed ear, carrying regular rows of desirable kernels, can be reasonably expected to produce its like under favorable conditions. A nubbin, or an ill-formed ear, may not produce all nubbins, or all ill-formed ears, but the chances are that like will produce like. Selection of the best is with no other plant so easy as in the case of corn, and experience shows that in no other case is the character of future crops more dependent upon judicious selection of seed.

WHO PAYS THE TAXES? WHO GETS THE RENT?

EDITOR KANSAS FARMER:—Please answer the following in THE KANSAS FARMER:

A's agent sells B a deeded farm in September, 1906. A sends B his deed and at the same time sends to the official abstractor of the county, where the land is, to have the land title brought down to date. The abstract shows that the title is not exactly clear. B sends the deed back to the bank and instructs the bank to hold the deed until A clears the title. A finds that it takes considerable time to fix the title right. In the meantime tax-paying time comes. B has his money in the bank ready when A makes the title good. B holds the deed, which A sent, in the bank.

According to law, who would have the taxes to pay? At the time the sale was made, a tenant had growing corn on the farm. Not one word was said about the crop. Who is entitled to the landlord's share? A READER.

Morris County. Section 8352, General Statutes of Kansas, provides as follows:

"As between grantor and grantee of any land, where there is no express agreement as to which shall pay the taxes that may be assessed thereon, if such land is conveyed between the first day of March and the first day of November, then the grantee shall pay the same, but if conveyed between the first day of November and the first day of March, then the grantor shall pay them."

Conveyance of land is effected by the execution and delivery of a deed. Until the delivery of the deed to the grantee or to some one authorized to receive it for him, the title remains in the grantor. According to the statement of our correspondent the deed in question seems to have been placed in escrow in the bank, to be delivered to the grantee at such time as the title shall be made clear. The presumption is that it would never be received by the grantee if the cloud on the title were never removed.

The inference from our correspondent's letter is that on December 3 the title had not been cleared and the deed had not been delivered to the grantee, but remained in escrow in the bank. Under the statute quoted it is clear that the grantor must pay the taxes.

The landlord's share of the crop accrues to the owner of the land at the time of gathering and dividing the crop. If the crop be gathered before delivery of the deed, the holder of the title to the land is entitled to the rent. Any part of the crop still ungathered

at the time of delivery of the deed should be divided between the tenant and the grantee.

INTERNATIONAL LIVE-STOCK EXPOSITION.

The Seventh International Live-Stock Exposition became a chapter in live-stock history with the closing of its gates at Dexter Park, Chicago, on Saturday evening last. It was the superior of any show of its kind ever held at this place and probably the best live-stock show ever held in the United States, when all breeds and classes are considered. Both in display and in its financial features, it was a conspicuous success. The uniformity of the exhibits of Shorthorn, Hereford, Angus, Galloway, Polled Durham, and Red Polled cattle was remarkable, and their equal probably never appeared in the show-ring on this side of the water. Larger shows there have been, but they have always included many inferior animals. The seventh International had none of these.

The horse exhibit was a wonder. It was the gathering together of the best to be found in this country. Practically all of the great importing and breeding firms of the United States were represented in the entries, and the animals they showed were well fitted and uniformly sound and of high quality. Those who won in this great show have reason to feel proud of the achievements of their horses. Owners of inferior horses did the wise thing by remaining away from the International of 1906. Perhaps never in America was competition so keen in both draft and coach classes as at this great show. McLaughlin Brothers, of Kansas City, Columbus, and St. Paul, who are "formerly of Kansas" and who have won an enviable reputation in the show-rings of both France and the United States, with their horses, were easy winners with their great 4-year-old Percheron, Etrageant. They also won first on French Coach stallion and the champion and reserve grand champion in each of these breeds.

The sheep-breeders of the United States, England, and Canada competed for honors. Most of the exhibits, however, were from Canada and the Northern States of the Union, and while the number of animals shown was not so great perhaps as at former Internationals, the quality was such that it was universally conceded that the sheep exhibit of 1906 was the best ever made at an International.

The hog show was weak. This does not mean that the animals shown were inferior, but it does mean that all the breeding classes were excluded and the number of fat barrows on exhibition was much smaller than heretofore. Poland-China, Duroc-Jersey, Berkshire, Tamworth, Large English Yorkshire, Hampshire, and O. I. C. swine were in the pens, but the number was small in each breed, though the quality was excellent. It has been hinted that this small exhibit of swine was a protest against the exclusion of the breeding classes. At any rate it is believed that the International of 1907 will open its doors to the breeding classes of swine.

Chicago is the great fat-stock market of the world, and naturally the exhibits of fat stock would form a prominent feature to any International show held here. Indeed it has been thought by men prominent in the cattle industry that the International Show should be devoted entirely to the fat classes. The pure-bred animals shown in the individual fat classes were an excellent lot, and did credit to their feeders, as well as to the show itself, but the grades and cross-breeds were inferior

this year as compared with other years. In the car-lot classes the showing was sensational. In point of numbers it was not as large as has been seen in these yards before, but in merit it was vastly superior. There never has been a show in late years in which the American feeder demonstrated his ability in so emphatic a manner as was shown at Chicago last week. The calf classes demonstrated the immense importance and quality of both southwestern and northwestern pastures as breeding grounds from which to draw the ever-increasing supplies of beef demanded by our later civilization.

While this great show is an educational institution of enormous value, there are certain of its features which seem of greater significance than others. The splendid exhibits of calves just mentioned is one point of special importance. To the writer, however, the most important, because the most significant, feature of the show was the work which has been done by the agricultural colleges and experiment stations. This work not only showed the possibilities of the animals which they developed and exhibited, but showed the possibilities of the young men who are gaining their training for future life in their halls. The stock exhibited by these colleges showed that they are training a new generation of American feeders, and the work of the boys in judging helped to show that they are training them along right lines.

This year the International also gave prizes for a students' corn-judging contest, in which three colleges participated under the direction of Mr. Eugene Funk, of Bloomington, Ill., who has won such a reputation as a corn-breeder.

The individual fat classes of cattle were judged this year by Mr. A. P. Turner, of England, who visited this country for the sole purpose of attending the International and acting as expert judge. He gave the premium, after a keen contest, to a Hereford calf which was born January 4, 1906 and bred and fitted by F. A. Nave, of Attica, Ind., while the reserve championship went to the Minnesota Agricultural College on a superb Aberdeen-Angus yearling. At the time of the tying of the grand championship on Peerless Wilton 39th Defender he was actually the property of the Iowa Agricultural College, although he was bred and fitted by H. J. Fluck, of Goodenow, Ill., and exhibited by Frank A. Nave, who sold him to Prof. C. F. Curtiss. Previous grand championships at the International were won as follows:

- 1900—Advance, Angus, B. R. Pierce.
- 1901—Wood's Principal, Hereford, G. P. Henry.
- 1902—Shamrock, Grade Angus, Iowa Agricultural College.
- 1903—Challenger, Nebraska Agricultural College.
- 1904—Clear Lake Jute, Angus, Minnesota Agricultural College.
- 1905—Black Rock, Grade Angus, Minnesota Agricultural College.

In the students' judging contest on horses, cattle, sheep, and swine, Ontario Agricultural College won first prize with 4,651½ points, Iowa second with 4,575½ points, Ohio third with 4,485 points, Kansas fourth with 4,254½ points, Michigan fifth with 4,216½ points, Texas sixth with 4,104½ points. The highest individual record was made by A. H. Homer, of Ontario College, with a total of 980 points, while J. O. Olson, of the Kansas College, was a close second with 975 points. Ontario's winning team was composed of H. Barton, A. McKenney, A. H. Homer, C. C. Nixon, and W. J. Waterman. The team from Iowa, which won first rank in the student contest in judging horses, was made up of B. W. Crossley, F. D. H. Biller, Ellis Rail, R. E. Drennen, and J. B. McMillen. The Kansas team was composed of J. O. Olsen, W. B. Gernert, C. Lambert, E. G. Shaffer, and R. E. Williams.

The winnings of the Kansas Agricultural College in the individual fat classes were as follows:

- SHORTHORNS.**
- Steer, spayed or martin heifer, 2 years and under 3, first on Tim.
 - Steer, spayed or martin heifer, 1 year and under 2, fourth on Captain Primrose.
 - Shorthorn Special, calf under 1 year, fourth on Col. Harriman.
 - Herd, second on Tim, Captain Primrose, and Col. Harriman.
- ABERDEEN-ANGUS.**
- Steer, spayed or martin heifer, under 1 year, first on Ideal.
- GRADES AND CROSS-BREDS.**
- Steer, spayed or martin heifer, 2 years and under 3, first on Kansas Laddie.
 - Shorthorn Special, 2 years and under 3, second on Landor.

Steer, spayed or martin heifer, 1 year and under 2, third on Pride of Maples. Shorthorn Special, senior calf, second on Boniface.

Grade Herd. First on Landor, Pride of the Maples, and Boniface.

The Kansas Agricultural College team participating in the students' corn-judging contest were A. B. Cron, W. B. Gernert, R. E. Williams, E. G. Shaffer, W. W. McCall, Clarence Lambert, and J. O. Olsen.

The stock-judging team was in charge of Professor R. J. Kinzer and the corn-judging team in charge of Professor A. M. TenEyck.

WHERE CHRISTMAS COMES IN SUMMER.

The "Auckland Weekly News"—the Christmas number—comes from far-away New Zealand. The paper is really a magazine, printed in the highest style of "the art preservative of all art." It is profusely illustrated with half-tone engravings of photographs of scenes and objects in that wonderful land beyond the equator. Christmas comes in summer in New Zealand, and the Christmas scenes are photographed amid green leaves, blooming flowers, and flowing streams and under balmy skies. The fortieth parallel of north latitude passes between Kansas and Nebraska. The fortieth parallel of south latitude passes through New Zealand. But New Zealand is an island—rather a pair of islands—away out in the big South Pacific Ocean. The water surrounding these islands changes but little in temperature and the equable temperature of the water greatly modifies the climate of the islands. But there are snow-capped mountains in New Zealand, so that one can be accommodated if cold weather is essential to his happiness.

The New Zealand Government comes very close to its people in the promotion of their prosperity. A leading purpose is to fill up the country with English and Americans of the class to which Western United States owes its development. Opportunities for men of energy and moderate means are undoubtedly favorable in New Zealand.

The Christmas number of the Auckland Weekly News is priced at one shilling, say 25 cents. It is worth the money.

BLOCKS OF TWO.

Every opportunity to do a favor to a friend or neighbor should be improved. The subscription price of THE KANSAS FARMER is \$1 per year. It is worth the money. But the publishers are extending the circulation rapidly by means of their blocks of two proposition. It is this:

Every old subscriber on sending his dollar for renewal is authorized to send the name and address of some one not now taking THE KANSAS FARMER and the dollar will pay for both subscriptions for one year. Address, The Kansas Farmer Company, Topeka, Kans.

The chairman of the committee on agriculture of the Oklahoma Constitutional Convention has, at the request of his committee, forwarded to Secretary F. D. Coburn, of the Kansas Agricultural Board, an invitation to address the convention upon the subject of "Constitutional Enactments that Will Protect and Build Up the Agricultural Interests of Our State."

The Sterling Bulletin reports that several farmers in its vicinity are harrowing their wheat this fall for the purpose of producing a soil mulch. These thrifty farmers should report results as they become manifest. THE KANSAS FARMER will be glad to print their experiences.

"The Story Book Girls."

It is always a pleasure to receive a book from the Macmillan Company, 66 Fifth Avenue, New York, as they always publish the best. "The Story Book Girls" by Christina Gowans Whyte, is one of her most entertaining creations and would make a splendid Christmas present for some one's daughter. Sent postpaid by the publishers for only \$1.50.

Miscellany

The Cement Block Industry.

PROF. J. D. WALTERS, IN THE INDUSTRIALIST.

The making of artificial cement is an old art. It was known to the ancient Romans, who used it in constructing foundations, fortifications, and buildings. The domes of the Pantheon were formed of cement concrete and are in excellent condition to-day. With the fall of the Roman civilization the art became lost for hundreds of years, but was rediscovered again in England a century ago. The English called it Portland cement, because when hardened it resembled a rock found on an island by that name. To-day the name Portland is given to all artificially mixed and burned cements to distinguish them from the natural or hydraulic cements. For years it was thought impossible to make a first-class article in this country. We depended chiefly on cements imported from Germany, but during the last quarter of a century America came rapidly to the foreground and is now overcoming the European countries in the manufacture and consumption of this useful substance.

Portland cement is finding new uses every day. It is crowding quicklime out of all engineering and most of the architectural construction. It has pushed vitrified brick and stone flagging off the sidewalks of our cities. It is being used to construct bridge-piers and whole bridges, grain elevators, sewers, and cisterns. It is building embankment walls, warehouses, depots, watering-troughs, pig-pens, fence- and hitching-posts, cellar floors, and grave monuments. There is one use, however, that has not developed satisfactorily—the substitution of cement blocks for stone and brick. Reports from cities where factories of cement blocks have been in operation for several years are nearly all to the effect that the sale of such blocks has not increased as was expected; that people do not seem to like them except for cheap foundations or stables, and that architects can not be induced to specify them.

Where coarse, sharp river sand can be had at small expense, the cost of cement blocks is considerably less than that of brick or dressed stone, and it takes very little mortar and labor to lay them in the wall. A mechanic can lay from two to five times as much cement block wall as he can lay stone or brick. What, then, is the matter with the cement block?

The answer is not hard to find: The cement block wall is not esthetic; it looks repulsive to a person of taste. Its color is dull and dark. Its surface, whether this be smooth or rough, is unnatural—an imitation. The geometry of the wall that it forms is monotonous. No one can look at a block wall, laid in usual range form, without feeling that it is a cheap substitute for the real wall, built of hand-shaped ashlar, of which each stone has an individuality of its own. The cement-block machine, in its eagerness to reduce the cost of the wall material and the labor of building the wall, has annihilated this individuality—this stone character—hence the wall looks dull and stupid.

Another serious fault of the usual block wall is in its lack of properly formed and well-fitted sills, caps, arch-quoins, and "corners." The writer has inspected dozens of cement block structures in many States, but has never seen one that showed satisfactory, well-fitting "dimension" blocks. To attempt to erect a building without an ample number of properly shaped moulds for the necessary dimension blocks, that is, caps, sills, arch-quoins, corners, dentals, transom sills, mullions, etc., is a waste of means and effort. It may also be said that many manufacturers of cement blocks do not

make provisions for the proper insertion in the walls of back lintels, bonds, wall-strips, beams, and floor joists, wall-plates, roof-anchors, etc. Often, too, no provision is made for interlocking the blocks, so that the least settlement of the wall will produce cracks clear through the wall and its interior coat of plastering. It is not strange that with these shortcomings architects and the public are not eager to take advantage of the introduction of this cheap and in many respects excellent building material.

Is there a remedy for these defects? The writer believes there is, and offers the following suggestions: First, whiten the color of the blocks by adding a small quantity of well-slaked quicklime to the mortar used to mould the block faces. As the faces are usually made of a separate mixture of specially rich cement mortar, this would not involve much extra work. Second, cast and use blocks of different sizes as laid in "broken ashlar" walls, instead of a single block pattern. From three to eight rectangular blocks of equal thickness, but different face sizes, should be combined in the visible face walls. Third, give the broken ashlar blocks a natural variety of faces and especially of bulges. Fourth, use thinner face blocks and lay behind these a backing of smaller blocks, thus making the wall double. This will make the building warmer and more solid and will give the mason a better chance to insert the necessary back lintels, bonds, and anchors of all kinds. Fifth, bush-hammer and draft the dimension blocks liberally. Cement blocks can be cut with bush-hammer and chisel, almost as well as sandstone, when the cutting is done before the blocks are fully hardened. This will add naturalness to the cast and will make it look like hand work instead of machine work. If John Ruskin had known cement blocks when he wrote his "Lamps of Truth" in his immortal "Seven Lamps of Architecture" he would have said, "A cast rockface is a lie."

The writer risks also to suggest a new use for cement blocks—their use in veneering frame buildings on the outside, as is now being done with pressed brick. Build the house of studs and sheath it on the outside as usual. Cover the sheathing with tar-board or building paper. Then veneer it with cement plates not much over two inches thick and measuring about two by three feet. Such plates can easily be perforated and nailed to the sheathing so that they will fit together. These comparatively large plates should be cast in carefully moulded forms and made to represent broken ashlar work. The joints and false joints should be raised pointed. There is no doubt that a building veneered in this manner would meet every artistic demand, be warm and fairly fire-proof, require no pointing and no repairs, and cost but little. Good architecture, however, excludes all veneering and imitating of each and every kind.

Cement Siding for Barn.

EDITOR KANSAS FARMER:—In your issue of November 29, your correspondent, "N," Marshall County, desires information as to the kind of siding he should use on his barn, which was sided with drop-siding, and asking about iron or steel sidings. The writer has had no experience with either galvanized or ordinary steel sidings, hence can give no information as to their lasting qualities; but it is accepted that galvanized steel sheets are easily destroyed by the fumes of coal smoke, and I should think that the moist fumes of ammonia which are constantly arising about barns and stables would be especially destructive to any steel, iron, or zinc material. In this age of cement structures there can be little mistake made if the farmer will revamp his old buildings by using another coat of cement on them, thus shutting out the winds and painting the buildings once for all time. But the question arises, can this be successfully done and how? Experience, that best of teachers, has shown the way and that it is easy and practicable.

A short time after the Columbian Exposition, there appeared in the "Country Gentleman," published at Albany, N. Y., a detailed description of a house—residence—on a farm in New York, that had been plastered successfully on the outside and in such a manner as to prevent the staff from cracking or falling away from the building. The originator of this method of sheathing buildings was a regular correspondent of the paper mentioned, and, if I remember right, his

State Farmers Institute and Allied Conventions

—AT THE—

Kansas State Agricultural College, Manhattan, Dec. 27, '06, Jan. 5, '07

State Farmers' Institute.....	December 27-January 5
State Boys' Corn Contest.....	December 31-January 1
Kansas Corn-Breeders' Association.....	January 1-2
Kansas Good Roads' Association.....	January 2-3
Kansas Draft Horse Breeders.....	January 2-4
Kansas State Dairy Association.....	January 3-4
Poland-China, Berkshire, and Duroc-Jersey Breeders.....	January 3-4
Aberdeen-Angus Breeders.....	January 4
Hereford Sale.....	January 5

J. H. MILLER, Secretary,

Kansas State Agricultural College, - - - Manhattan, Kans.

name is Wing. The information which I now give is second-hand and entirely from memory, as the article clipped from the paper has long since disappeared. Mr. Wing's method, which he said was not patented, and which he freely gave for public benefit, was said by him to be an improvement over the method employed by the World's Fair builders in erecting the famous "White City." The World's Fair method of using staff is to lathe the building on the outside and then plaster outside. This method answers fairly well, but at the end of one season the plaster begins to fall away from the action of the wind and weather. Under Mr. Wing's method this is obviated. His plan, which I have followed in a small way, and very satisfactorily, is about substantially as follows:

Take chicken wire, woven with not over one-inch mesh, and hang over the outside of the building, as a paper-hanger hangs paper on the inside wall of the house. To commence, take the corner boards off a building and hang the first strip of woven wire flush with the outside edge of building, using 6-penny nails to fasten the wire. Drive the nails only so far in that they can be bent over, forming a hook for the outer strand of the netting. Having hung one strip of wire, commence and hang the second, the nails in the inside edge of the last width being left straight until the second width is hooked over these last straight nails. Then after the second width is hung, these nails engaging the two lapped edges are bent over so as to form a hook for the last strip of woven wire. After the wire is all hung on one side of the building, let the wire-hangers take inch-long screws and go over the whole space, driving the screws with the hammer about one foot apart over the space so covered with the woven wire. Each screw should be driven about one-half its length, making sure that it comes immediately under a strand of wire or a crossing place in the weaving. These screws are driven for the purpose of holding the woven wire out from the building sufficiently to allow it to take a place middle way of the plastering which is to cover it, weaving the whole mass together and strengthening it. The wire roll can be laid on the ground horizontally, and the hangers take the loose end and carry it up the building, allowing the roll to unwind at will. The nails should be driven close enough to fasten the wires securely to the siding or sheathing boards. The principle involved in this is precisely the same as is so successfully employed in steel and cement structures, namely, that of binding the cement together with steel rods.

Mr. Wing, in his article in the Country Gentleman, stated that he preferred not to mark off the plastering in imitation of stone, but left it plain. This, of course, is a matter of taste with the user. Mr. Wing also showed a cut of this form of residence before and after revamping with the outside plaster—the buildings showing a decided improvement in appearance. The plastering should come well down over the lower edge of the building. It should connect with the foundation wall and be carried well into the earth to shut out all drafts and weather. The first coat should be made of common brown mortar—lime and sand—and the outer or finished coat should be of good Portland cement, made in the ordinary manner for cement work. If coloring is desired, any shade wanted may be obtained by mixing coloring pigments with the last cement coat, as yellow ochre, etc., to suit the taste of the person having the work done. If this work is carefully done and the building well and thoroughly repaired, and any unsound timber removed from near the foundations and replaced with new, there is no reason why many old and apparently dilapidated farm buildings should not, as Mr. Wing stated it, "be made to do service for many generations; for once plastered they are always painted."

I am of the opinion that a good, durable roof, one that would never leak, can be very cheaply constructed by using this method, and in this way a building could be constructed that would be practically fire-proof and wind-proof. In these days, when good lumber is becoming so scarce, there must be some way found wherein the Kansas farmer can build cheap houses and barns. While our native cottonwood timber makes elegant finish, it makes poor siding or outside lumber. But by using it for framework and sheathing, and in turn sheathing the cottonwood with chicken wire and cement, the lumber problem for Kansas will largely be solved, as the cot-

tonwood grows nearly as fast as that weed which is our State emblem—the sunflower. M. R. DAVIS.

Sedgwick County. [Would it not be better and almost as economical to use cement mortar for the entire job.—EDITOR.]

Programs for State Meetings at Manhattan.

The State Farmers' Institute and Allied State Conventions will be held at Manhattan, Kans., December 27, 1906, to January 5, 1907. All meetings will be held in the Kansas State Agricultural College buildings.

STATE FARMERS' INSTITUTE

Will be held Thursday, December 27, 1906, 8 a. m. to Saturday, January 5, 1907, noon. The corn and corn-judging contests will be held under the direction of Professor TenEyck, and the stock and stock-judging contests under the direction of Professor Kinzer.

For the first three days this work will be given both in the mornings and afternoons. During the second week only two hours daily will be given to each subject. All members of the institute will be expected (although not required) to take both subjects. Lectures will begin at 8 o'clock each morning. Professor Kinzer's lectures in the stock pavilion, Professor TenEyck's in the old chapel, one-half the institute going to each for the first two-hour period and then changing. Score-cards will be provided for all members for each session.

Members will please register the first day at the office of the superintendent of institutes in the agricultural hall. Attendance cards will be given out then, to be returned at close of session, records to be made by each member. No fee of any kind, no incidentals, no books required, except note-books.

BOYS' CORN CONTEST ASSOCIATION

Will be held Monday and Tuesday, December 31 and January 1, Monday Afternoon.

2.00. Assembly and greetings (old chapel). 3.00. Visit to horse, cattle, and hog barns. 4.00. Visit to dairy barn and creamery.

Monday Evening (Auditorium). 8.00. The Boy and Scientific Agriculture, Prof. C. W. Burkett, director Kansas Experiment Stations. 8.30. Address, Hon. Jos. E. Wing, associate editor Breeder's Gazette, Chicago.

9.30. "Corn-Breeding" (with stereopticon views), Prof. A. M. TenEyck. Tuesday Morning, January 1, 1907 (Girls' Gymnasium).

8.00. Drills in corn-judging. 10.00. Lecture on Corn-Judging, Prof. A. M. TenEyck, Kansas State Agricultural College.

10.30. Address, Prof. A. D. Shamel, United States Department of Agriculture, Washington, D. C. 11.30. Awarding of prizes.

KANSAS CORN-BREEDERS' ASSOCIATION

Will be held Tuesday and Wednesday, January 1 and 2, 1907. Tuesday Afternoon (Girls' Gymnasium).

2.00. "The Opportunity in Seed Improvement," Prof. C. W. Burkett, director Kansas Experiment Stations. 3.00. "Seed and Soil Problems," Prof. E. G. Montgomery, University of Nebraska.

4.00. Inspection of corn exhibits. Tuesday Evening (Auditorium).

8.00. "Qualities in Ear of Corn that Go to Make a High Yield," Prof. M. F. Miller, University of Missouri. 9.00. Address, Prof. A. D. Shamel, U. S. Department of Agriculture, Washington, D. C.

Wednesday Morning (Girls' Gymnasium).

8.00. Drills in judging corn. 9.00. Business meeting. 10.00. "Insects Injurious to Corn," Prof. E. A. Popenoe, Kansas State Agricultural College.

10.45. Address, Prof. M. F. Miller. 11.20. Awarding of prizes and sale of prize corn. 12.00. Adjournment.

C. E. Hildreth, Altamont, is the president, and V. M. Shoemith, Manhattan, is the secretary.

KANSAS GOOD ROADS ASSOCIATION

Will be held Wednesday and Thursday, January 2 and 3, 1907. Wednesday Afternoon (Girls' Gymnasium).

2.00. President's address, Mr. C. F. Miller, Fort Scott. 2.30. "The Gospel of Good Roads," Mr. Barney Sheridan, Paola.

3.00. "Good Roads Laws," Hon. Edwin Snyder, Oskaloosa. 3.30. "Engineering Problems in Road-Building," Prof. W. C. Hoard, University of Kansas.

4.30. "Report of Work in Atchison County," Mr. L. S. Hereford, Atchison. Wednesday Evening (Auditorium).

8.00. "Bridges and Culverts," Prof. E. B. McCormick, Kansas State Agricultural College. 8.40. "Road Inquiry and Road Economics," Hon. M. O. Eldridge, Office of Road Inquiry, Department of Agriculture, Washington, D. C.

Thursday Morning (Girls' Gymnasium). 8.00. "The Relation of Drainage to Good Roads Construction," W. R. Golt, Oklahoma City, Okla.

8.30. "My Experience with the King Road Drag," Hon. Bradford Miller, Topeka. 9.00. "Report on State Experiments on Oiling Roads," Prof. Albert Dickens, Kansas State Agricultural College.

9.30. "Importance of Engineering Control in Road Construction," Lute P. Stover, Engineer Wichita Natural Gas Co., Wichita. 10.00. "Good Roads Commission and the Fort Scott Idea," Hon. Robt. Stone, Topeka.

10.30. "Report of Work in Bourbon County," A. J. Sherman, Fort Scott. 11.00. Business session.

C. F. Miller, Fort Scott, is the president, and I. D. Graham, Topeka, secretary.

KANSAS DRAFT HORSE BREEDERS' ASSOCIATION

Will be held Wednesday, Thursday, and Friday, January 2, 3, and 4, 1907. Wednesday Afternoon (Room 54 Agricultural Hall).

4.00. Organization. 4.15. "Needed Legislation," Prof. R. J. Kinzer; discussion opened by H. W. Avery, Wakefield.

Thursday Morning. 8.00 to 10.00. Drill in horse-judging, Professor Kinzer.

Thursday Evening (Old Chapel). 8.00. "The Draft Horse Outlook," Mr. J. A. Gifford, Beloit. 8.30. "How to Feed and Develop a Colt," Mr. S. C. Hanna, Howard.

9.00. "The American Carriage Horse," Prof. W. J. Carlyle, Colorado Agricultural College.

Friday Evening (Auditorium). 7.30. Business meeting. 8.00. "Kansas as a Live Stock State," Hon. T. M. Potter, Peabody.

8.30. "Some Important Principles in Breeding," Hon. J. W. Robison, Eldorado. 9.00. "Comparison of Types in Meat-Producing Animals," Mr. F. D. Tomson, Chicago.

KANSAS DAIRY ASSOCIATION

Will be held Thursday and Friday, January 3 and 4, 1907. Thursday Afternoon (Girls' Gymnasium).

2.00. "The Farmer and the Dairy Cow," C. F. Stone, Peabody. 2.30. "My Success as a Dairyman," F. F. Fairchild, Tonganoxie.

3.00. "The Dairy for Profit," F. E. Uhl, Kansas City, Kans. 3.30. "The Lesson of Care in the Dairy Business," Prof. Oscar Erf, Kansas State Agricultural College.

4.15. Milking machine demonstration. Thursday Evening (Auditorium).

8.00. "The Necessity of State Supervision and Inspection," Hon. R. M. Washburn, Columbia, Mo.

9.00. "The Suicidal Competition of the Large Creameries and the Place of the Small Creamery," Hon. E. H. Webster, Chief Dairy Division, U. S. Department of Agriculture, Washington, D. C.

Friday Morning. 8.00. Hand-separator and butter-making demonstrations.

9.00. Business meeting. 9.30. "Modern Dairy Methods," Prof. E. W. Curtis, Kansas City, Mo.

10.00. "How to Interest the Farmer in the Dairy Business," T. A. Borman, Topeka.

10.30. "Dairying an Important Factor in Economic Agriculture," Prof. C. W. Burkett, director Kansas State Agricultural College.

11.00. "The Dairyman of the Future," W. W. Marple, Chicago.

H. Van Leeuwen, Ottawa, is the president, and I. D. Graham, Topeka, secretary.

SWINE-BREEDERS' ASSOCIATION

Will be held Thursday and Friday, January 3 and 4, 1907. Thursday Afternoon, Jan. 3, 4 o'clock.

Poland-China breeders, Room 54, agricultural hall; Berkshire breeders, Room 52, agricultural hall; Duroc-Jersey breeders, Room 56, agricultural hall.

Friday Morning. 8.00. Drills in hog-judging, Prof. R. J. Kinzer (general meeting, agricultural hall, Room 54).

9.00. Business meeting. 9.30. "Shows and Fairs," M. G. Hamm, Holton.

10.00. Establishing a Type and a Herd," G. W. Berry, Emporia. 10.30. "Some Fundamentals in Breeding and Feeding," Prof. G. C. Wheeler, Kansas State Agricultural College.

11.00. "The Advertising Problem," J. F. Stodder, Burden.

AFERDEEN-ANGUS BREEDERS' ASSOCIATION Will be held Friday and Saturday, January 4 and 5, 1907. Friday Afternoon (Agricultural Hall, Room 54).

1.30. Organization and business. 2.00. "The Aberdeen-Angus Outlook," L. H. Kerrick, Bloomington, Ill.

2.30. "Why I Prefer the Aberdeen-Angus," Geo. Stevenson, Waterville. 2.50. "The Aberdeens on the Range," Charles E. Sutton, Lawrence.

3.15. "Some Important Principles in Breeding," Prof. R. J. Kinzer, Kansas State Agricultural College.

4.00. "The Association and Sales," F. D. Tomson, Chicago.

Saturday Morning (Stock Pavilion). 8.00. Points in judging the Aberdeen-Angus cattle.

Saturday Afternoon. 12.00. Sale of Hereford cattle, property of Mr. J. G. Arbuthnot, Haworth, Kans.

Wire-Worm Eats Seed-Corn.

I have read with much interest the articles in THE KANSAS FARMER referring to seed-corn—larger crops, soil culture, etc. There is one phase of the corn question that is of more importance to farmers in this section than good seed or the kind of seed, and that is the wire-worm.

If there any way to "doctor" seed-corn to prevent this worm eating it before it comes up? Hundreds of acres in Butler County had to be replanted the last two years because of it.

Butler County. SUBSCRIBER.

No method of protection of the seed-corn or the young plant from the wire-worm by treating the seed with some obnoxious dip has given satisfaction in any experiment tried. Some of the dips injure the germination of the seed. Others make the seed troublesome to handle by the planter, or prevent the use of the machine altogether. A slight attention to the principles of plant growth will serve to show that no obnoxious substance placed on the seed can be made to render the young growth distasteful to the insect, as the plant must absolutely select its own nutriment or become diseased and die. And the plant will not select such

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things as coal-oil, coal-tar, or arsenic. While such things may protect the seed itself from attack, or kill the insect or animal eating it, the seed is usually thus protected to the great detriment of the germination. This has been the uniform result from all experiments that I have heard of.

Methods of ridding the soil of wire-worms seem so far not to have been fully satisfactory, though much study has been given to the solution of the problem. Comstock and Slingerland conclude that fall plowing may be relied on to destroy the full-grown worms, the pupae, and the recently matured beetles, and Forbes recommends a systematic rotation, interposing between grass and corn a crop not vulnerable to wire-worms, suggesting for this purpose red clover. The latter author finds that crops suggested as valuable to kill the worms in the soil, namely, buckwheat, mustard, rape, etc., do not have the desired effect, while Comstock concludes, after extended trials of direct applications of obnoxious substances to the soil, that such can not be relied on to kill the worms without also killing the plants. Under rotation, the worms gradually forsake the soil, when it may be again planted to corn. E. A. POPENOE.

A Christmas Present for You.

In order to have as many as possible of our old friends renew their subscriptions for 1907 during the present month we have made a list of eighteen books and publications, any one of which we offer, as a Christmas gift, to any old subscriber who renews his subscription for next year before January 1, 1907.

Renewing your subscription now saves much work and delay caused by the usual January rush, as the bulk of our subscriptions expire with the first of the year.

Old subscribers can also take advantage of our "Blocks of Two" offer.

Send your subscription now, making selection from the following list:

NEWSPAPERS.

- 1. American Swineherd. 2. Agricultural Review. 3. Apple Specialist. 4. Farm and Stock. 5. Green's Fruit Grower. 6. Farm and Fireside, etc. 7. Helpful Hen. 8. Kimball's Dairy Farmer. 9. Poultry Gazette. 10. Prairie Farmer. 11. Vick's Family Magazine. 12. Western Swine Breeder. 13. Weekly Capital. 14. Woman's Magazine. 15. Weekly Inter Ocean.

BOOKS.

- 16. Bonnie Prince, a juvenile book of great excellence. 17. The Busy Man's Friend, a 250-page book of reference and information for everyday life. 18. The Corn Book, by Prof. F. G. Holden, the latest and best publication on corn-breeding published, and a year's subscription to Farm News. Address all orders to The Kansas Farmer Company, Topeka, Kans.

Greatest on Earth.

Hunlocks Creek, Pa., Feb. 7, 1906. Dr. B. J. Kendall Co. Dear Sirs:—I have used your medicine and found it the greatest Spavin Cure on earth. Yours truly, HOWARD BRADER.

Stock Interests

PURE-BRED STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper.

December 14-15, 1906—Dickinson and Marion County Breeders Sale of Herefords, at Hope, Kans. J. B. Shields, Lost Spring, Kans., Secretary.

December 15, 1906—Poland Chinas, Duroc Jerseys and Berkshires at Coffeyville, Kans. H. E. Bachelder, Fredonia, Kans., manager.

December 18, 19, 20 and 21, 1906—Shorthorns, Herefords, Aberdeen-Angus and Galloway at South Omaha, Neb. D. R. Mills, Des Moines, Iowa, Manager.

December 19, 1906—Herefords, E. R. Morgan Blue Rapids, Kans.

January 4, 1907—Poland-Chinas, B. M. Bell, Beatrice, Kans.

January 9-10-11, 1907—Percheron, French Draft, Shire and Clydesdale stallions, mares and fillies at Bloomington, Ill. D. Augustin, Carlock, Ill., and C. W. Hurt, Arrowsmith, Ill.

January 10, 1907—R. B. Marshall, Willard, Kans., Duroc-Jerseys.

January 11, 1907—Grade Draft, Coach, Trotting bred, All Purpose and Saddle horses, mares and gelding, at Bloomington, Ill. D. Augustin, Carlock, Ill., C. W. Hurt, Arrowsmith, Ill.

Jan. 17, 18 and 19, 1907—Shorthorns, Aberdeen-Angus and Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.

January 29, 1907—Grant Chapin, Greene, Clay County, Duroc-Jerseys.

February 2, 1907—Shorthorn cattle, W. J. Snodgrass, Douglass, Kans.

February 5, 1907—C. A. Cook, Salem, Neb., Duroc-Jerseys.

February 6, 1907—E. M. Jenkins & Son, Byron, Neb., Poland-Chinas.

February 6, 1907—Wm. Brandon, Humboldt, Neb., Duroc-Jerseys.

February 7, 1907—R. F. Miner, Tecumseh, Neb., Duroc-Jerseys.

Feb. 7, 1907—Ward Bros., Republic, Kans., Duroc-Jerseys.

February 8, 1907—T. J. Charles, Republic, Kans., Poland-Chinas.

February 8, 1907—A. J. Russell, Crab Orchard, Neb., Duroc-Jerseys.

February 9, 1907—Poland-Chinas, C. O. Parsons Clearwater, Kans.

February 12, 1907—John Morrison & Son, College View, Neb., Poland-Chinas.

February 12, 1907—Duroc-Jerseys, T. P. Teagarden, Wayne, Kans.

February 13, 1907—Poland-Chinas, H. B. Walters, Wayne, Kans., at Concordia, Kans.

February 13, 1907—J. B. Davis & Son, Fairview, Kans., Duroc-Jerseys.

February 13, 1907—W. A. Kirkpatrick, Lincoln, Neb., Duroc-Jerseys.

February 14, 1907—Gilber Van Patten, Sutton, Neb., Duroc-Jerseys.

February 14, 1907—Poland-China bred sow sale at Abilene, Kans. L. D. Arnold, Route 1, Enterprise, Kans.

February 15, 1907—Frank Dawley, Osborne, Kas., Poland-Chinas.

February 15, 1907—Geo. Briggs & Son, Clay Center, Neb., Duroc-Jerseys.

February 16, 1907—Duroc-Jerseys, F. W. Wettrick Falls City, Neb.

February 16, 1907—Roberts & Harter, Hebron, Neb., Duroc-Jerseys.

Feb. 18, 1907—U. W. Taylor, Pearl, Kans., Duroc.

February 19, 1907—Jno. W. Jones & Son, Concordia, Duroc-Jerseys.

December 19, 20, 1906—Webber, Apperson & Co., Tecumseh, Neb., Berkshires, Shorthorns, Polled Durhams and Jersey cattle.

February 22, 1907—Poland-Chinas, Lemon Ford, Minneapolis, Kans.

Feb. 20, 1907—J. E. Joines, Clyde, Kansas, Duroc-Jerseys.

Feb. 21, 1907—Leon Carter & Co., Asherville, Kans Duroc-Jerseys.

February 22, 1907—Peerless Perfection and Grand Perfection Poland-China bred sow sale. Harry E. Lunt, surden, Kans.

February 22, 1907—J. C. Larrimer, Derby, Kans., Poland-Chinas.

February 25, 1907—Poland-Chinas, Bollin & Aaron, Leavenworth, Kans.

February 26, 1907—G. E. Avery, at Kansas State Agricultural College, Manhattan, Kans., Aberdeen-Angus cattle.

February 26, 1907—Poland-Chinas, Holmes & McDaniel, Edmund, Kans.

February 27, 1907—Poland-Chinas, W. H. Bullen, Belleville, Kans.

March 21, 1907—Elderlawn Shorthorns at Manhattan, Kans., T. K. Tomson & Sons, Dover, Kans.

April 3, 4 and 5, 1907—Herefords, Aberdeen-Angus and Shorthorns, Kansas City, Mo., W. C. McGavock, Mgr., Springfield, Ill.

May 1, 2 and 3, 1907—Aberdeen-Angus, Shorthorns and Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.

Improved Stock Breeders Association of the Wheat Belt—November 13, 14, 15, 1906, at Arkansas City, Kans., I. E. Knox, Nardin, O. T., manager; Dec. 6, 7, 1906, at Anthony, Kans., Chas. M. Johnston, Caldwell, Kans., manager; Dec. 13, 19, 1906, at Wichita, Kans., J. C. Larrimer, Derby, Kans., Manager; Feb. 13, 14, 15, 1907, at Caldwell, Kans., Chas. M. Johnston, Caldwell, Kans., manager.

Getting Cattle on Feed.

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The season for profitably running cattle on stalk-fields has passed, and all over the corn-belt where cattle-feeding is a prominent feature of agricultural practise, thought is turned toward getting cattle on feed. This is no less a problem at this season outside the corn-belt where the running of stock-cattle on stalk-fields is practically unknown.

It not infrequently happens that steers intended for the feed-lot are left to roam about the stalk-fields longer than it is profitable to do so. Feeding cattle should be taken from stalk-fields and pastures before they cease thriving under such management. How the steer should be handled subsequently will depend largely upon its age, grade, and condition, when it is to be marketed, and the most available feeds.

The majority of cattle now coming from pastures and stalk-fields will not be finished for market in less than one hundred and fifty days, while many of them will be carried through the winter on rough feed as cheaply as possible and turned to grass in the spring at a time when they are practically on full feed.

The cattle which are to be marketed after being turned to grass in the spring should be handled differently than those that are to be sold earlier.

DIFFERENT METHODS PRACTISED.

Those who are familiar with cattle-

feeding practise know that there is much difference of opinion as to the length of time which should be employed in getting cattle on full feed. The majority of cattle-feeders, I believe, practise a system of feeding which involves the getting of the cattle on full feed in from ten days as the minimum to thirty days as the maximum length of time. The minority take what appears to be a more rational view of this question and use from thirty days at the least to sixty days at most for getting cattle on feed. Both methods have their advantages and disadvantages which, at present, must be stated more as opinion than as a result of deductions from actual experiments covering a comparison of these methods, although at the Illinois Station both of these systems have been tested and there is an experiment now in progress at the station referred to inquiring into this very question. First it should be said that both methods are followed with varying success. Cattle may be put on full feed in from fifteen to thirty days without apparent injury. The advantage of this method is a saving in time or a shortening of the feeding period. It contributes to larger gains during the first part of the feeding period, and, taking the whole feeding period together, it is believed to induce a larger consumption of concentrates and a consequent smaller proportion of roughages. With this system of feeding the gains grow smaller and more expensive during the latter part of the feeding period, provided the same extends over five months or more of full feeding, and provided aged rather than young cattle are involved.

METHOD USED WITH SHORT-FED CATTLE.

In dealing with short-fed cattle, getting cattle on full feed in fifteen to twenty days is undoubtedly advisable, but if cattle are to be in the feed-lot six months, they can be given a very creditable marketable finish where thirty to forty-five days of that time are employed in getting them on full feed. The advantages of this method are: First, the steer's ration is at first made up of such bulk as to permit of the steers eating all they wish without any danger of getting the cattle off feed or deranging the digestive organs. Second, the grain-ration is so gradually increased that the steers become accustomed to handling a heavier and more highly concentrated ration. This method is safer in the hands of the novice. Third, gains are not so large during the first part of the feeding period as they are where cattle are put on feed more rapidly, but they are still economical as viewed from the standpoint of feed consumed to produce this gain. As the feed is increased slowly and regularly, the gains increase with the extent and concentration of the ration until the gains during the last sixty days of a six-months' feeding period are just as large and frequently as economical as at other periods during the fattening process. Fourth, steers so handled can be more safely carried beyond the time planned to market them, in case occasion seems to warrant such holding, than they can where started more quickly.

Where thirty days to six weeks are employed in getting cattle on full feed, the cattle so handled very seldom consume the large amounts of corn and other concentrates reported by cattle-feeders who practise getting cattle on feed more rapidly. The gains made per unit of feed consumed compare very favorably with the quick-feed method, even though a larger proportion of the ration consists of roughage. The end and aim of the cattle-finishing process is, I take it, to get marketable finish at the least cost, considering cost of feeds used and interest on investment. Economical gains contribute very largely to bringing about this result and is, in fact, a more important factor than a little extra time, which may be required by getting cattle on feed in a more rational manner. With good alfalfa or clover hay used as roughage, it is undoubtedly better practise to get cattle on full feed more slowly than where corn stover, timothy hay, or straw constitutes the roughage. Again, if, for any reason, it is desirable to get cattle on feed quickly, the supplementing of corn with some nitrogenous concentrate, like ground linseed cake (oil-meal), gluten, or cottonseed-meal, is recommended. Granting that not less than thirty days are to be used in getting cattle on full feed, the writer would feed the cattle all the clover or alfalfa hay they would eat up without waste and, in addition, start with two pounds corn per steer per day, increasing the corn at the rate of one pound per steer per day until each steer receives ten pounds corn per steer per day. This ration of corn should be con-

tinued for three days and then another increase of one pound made. From this point on, an increase of one pound per steer per day every third day will bring the cattle up to seventeen pounds corn each per day in thirty days. By continuing this rate of increase for fifteen days longer, the steers will be getting 22 pounds each per day. If oil-meal or other nitrogenous concentrates are used at the rate of about three pounds per 1,000-pound steer per day, this ration will prove quite satisfactory. When the cattle begin to get about 12 to 15 pounds corn per steer per day, they will not require or relish as much roughage, and at the end of thirty days should not be given to exceed 12 pounds clover or alfalfa per 1,000-pound steer per day. As the feeding period progresses, the amount of roughage fed should constitute about one-fourth of the ration by weight.

Mules.

DIRECTOR C. W. BURKETT, KANSAS EXPERIMENT STATIONS.

The mule is a hybrid animal: a cross between the horse and the ass. An offspring of the male ass or jack and the mare is known as mule, while the progeny of a stallion and a female ass is designated as hinny.

Of these two classes the mule is the more valuable, since there is greater size, to which are connected style, finish, bone, and other requisites that go to make the animal so valuable for draft purposes. From this description it follows that the hinny is smaller in size, somewhat unsightly in form, lacking in finish, and adapted to environments that call for lighter work and effort. Still the hinny is able to endure drudgery and hardship equal to, and often greater, than that of the mule.

WHAT THE MULE INHERITS.

Like all other animals, the mule and the hinny naturally inherit qualities from both parents. With the former, the body follows the maternal type, but closely adheres to the paternal side in the regions of head, foot, ear, and bone. The voice of the mule is not like the jack, as popularly supposed, but only resembles it.

From the paternal side come also patience, endurance, faithfulness, and ability to do hard work, and much of it; and from the mother come also those qualities that have made the horse so prominent and so famous—courage, hardness, and strength.

WHERE MULES ARE UTILIZED.

You will find the mule wherever drudgery is performed, wherever hard work is done; wherever strenuous effort is demanded. If the earth on which the feet must go is broken, marshy, and wet, there you will find the mule. If climates are hot and sultry, and harmful to health; if paths are precipitous and dangerous, requiring surefootedness and steadiness; if bold courage, large demands, and strenuous calls are made, it is the mule that is drafted into service, because it is well known that he will not be found unequal to meet the occasion.

You will find him in the cotton-field of the black belt, in the sugar-fields of the South, on the stiff prairie lands of the West, on the difficult mountain trails; in these fatiguing places you will find the mule in largest numbers, and in these places you will find him appreciated most highly.

And why is this so? Because the mule has been born and bred to this environment. In it he serves better than any other beast of burden, for he asks less and does more; because he enjoys immunity from disease in a large measure; because his span of life is many years; and because his demands on his master are few and simple and reasonable.

IMPORTANCE IN THE UNITED STATES.

In 1906 the estimated number of mules in the United States was 3,404,360, which was valued at \$334,680,000—an average of nearly one hundred dollars.

Mules are now found in use in every State in the Union, but more largely in the Southern States. The table below shows the States having the largest numbers of mules in our country, according to the census of 1900:

MULE-PRODUCING STATES.

Kentucky and Tennessee have been noted from early days as mule-breeding centers. To these States many noted jacks have gone; not native only, but those representing the best of the Andalusian, Catalonian, Majorcan, and the Maltese types.

During recent years it has been learned, that while soil and climate may influence quality in the individual,



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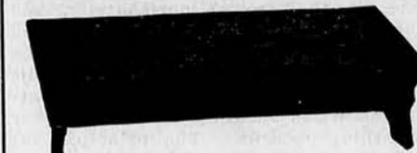
Curb, Soint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.60 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.



Lump Jaw

The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy. FLEMING BROS., Chemists, 313 Union Stock Yards, Chicago, Ill.



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Owing to the frequent demands for fine job work in the line of stock printing, we are now prepared to fill such orders and as a starter offer to breeders of pure-bred stock a line of stationery, neatly packed in a special case and delivered to any express office prepaid. The work will be high-class printing, first class stock. We furnish stock cuts representative of the breed. Our stationery specialty consists of

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care in selection of feeds and in the breeding types are also fundamental among the requisites of successful mule production; and hence, where these latter are heeded, mules may be produced. Consequently, Texas, Georgia, Missouri, Kansas, and Oklahoma, as well as many other States, are vying with Kentucky and Tennessee in producing mules of high quality that find favor in all parts of the world.

THE TYPE OF JACK TO USE.

The jack for mule production should be at least fifteen hands high, and should carry a maximum quantity of weight. By this, I do not mean that the jack must be fat; rather size that with it may go heavy bone, a broad chest, and great in the region of the hips.

Connected with size you will usually find a rather large head, somewhat heavy and coarse, and not of the best quality; but you had better sacrifice quality here, so as to secure weight and substance, requisites of first importance with the mule.

A large, heavy foot is desirable also. To these qualities, secure all the style that is attainable, for it is folly to select a mule jack and give no weight to style and bearing. Too often this is done; and to convince yourself you have only to observe the progeny to see in what direction the error lies.

THE KIND OF MARE TO BREED FROM.

A common error is to suppose that as soon as a mare becomes diseased and unfit for horse-breeding she may be used then for the production of mules. Perhaps this accounts for so many inferior mule colts. It matters not how superior the jack may be, unless the dam is equally sound, and of equally good conformation, you will not succeed in producing colts of high quality and of great usefulness.

Select a mare, therefore, that is sound, free from blemishes. Select a good, respectable individual. Just bear in mind that the Jam, in order to produce good mule colts, must be good herself. She must possess good strength, with a large, well-rounded barrel; her head must be fine and clean, and attached to a neck of desirable proportion; her chest should be broad, her hips wide; and finally her style, her bearing, and her breeding, should be of high order. Select these for the dam; be equally careful as to size, and you will be a successful raiser of mules. Neglect these points, and your mule-crop will be indifferent only and surely but slightly remunerative.

For the production of large mules, large draft mares only will serve. You may take good grade mares of the Percheron, Clydesdale, or Belgian breeds. Any one of the mentioned breeds is good, and all are satisfactory. (These are the breeds most commonly used, but grades of any of the draft breeds will do.)

COLOR COMES IN.

Perhaps color is but a play of the fancy. Still, in case of the jack, it suggests lineage and purity of breeding. Generally speaking, a dark color is preferable, if not altogether demanded of the jack. Black with white points is quite the best fashion. With mares let the color be dark also: bay, black, brown, or chestnut.

Good color in the dam will help with good color in the colt—a matter of no small importance if a discriminate public is to be catered to. Otherwise, you need not bother. There is no special merit in possessing the "royal purple;" no more work will be done, no more unselfish devotion to duty will result. I fear quality and size and substance are too often sacrificed for color; if this be so, a good, safe breeding path is not being followed, and mule colts of inferior breeding only will result. Let color play its part, but insist that judgment and common sense shall not be ignored altogether.

THE BREEDS OF JACKS.

As early as 1591 jacks were brought to this country by the Spaniards. The first of the kind, no doubt, went to Mexico. With a more settled condition in our country, and a demand for better work animals, the mule came. One of the first men to engage in the production of mules was General Washington. "King's Gift," from the King of Spain, and the "Knight of Malta," from LaFayette, two jacks used on General Washington's plantation, were quite famous in their time.

Up to the time of the Civil War but two breeds of jacks were used, the Maltese and the Spanish. The Andalusian and Catalonian, from the mainland, and the Majorcan, from the island of Majorca, were formerly known as Spanish. So great has been the demand for jacks of Malta, that practical-

ly all have been exported, and now but a few are left on the island.

The jacks of Italy have not been successful as mule-producers in this country, and consequently have entered but slightly into the mule stock here. At the present time there are three noted breeds of jacks, the native, the Poitou, and the Catalonian. In regard to favor and importance, perhaps these breeds should be ranged as mentioned here.

Many of our noted mule-breeders prefer native jacks to those of foreign breeds. The native jack produces a good deal of finish; a good form; strong legs; broad hocks; and he is already peculiarly adapted to our environments. Besides these qualities, he extends to his progeny immunity from diseases of an unusual degree and an exceptionally long life.

The Poitou mule is a French breed of Spanish origin, and is ranked by some breeders as first. Among jack breeds he is liked especially for agricultural use, because of the size of his limbs and feet. The legs are short and straight with plenty of bone, while the pasterns are short, as required of a draft animal. In the case of the Poitou the legs are flat and hard, while the feet are large and more expanded than those of any other breed of mules. In this respect the Catalonian jack is not equal to the French breed, although the Catalonian is finer in limbs than the Poitou.

With the Poitou jack, both the head and ears are enormous; in fact, French breeders are inclined to regard these as of very great importance; more valuable than the smaller kind. The neck is strong, thin, and broad. There is a want of withers, but this is true of all jack races. This broad chest and enormous legs of the Poitou jack promise much in mule-breeding.

Prices for individuals of this breed are a little higher, perhaps, than for either the Catalonian or native, but it is possible to get a good Poitou jack for one thousand to fifteen hundred dollars, although many have sold from twenty-five hundred to thirty-five hundred dollars each.

The Poitou jack varies from 13½ to 15 hands, which is also about the height of native, Catalonian, and other Spanish breeds. The height of a jack is not nearly so important as head, ears, legs, feet, and barrel. If height can be secured from the dam, it is better to sacrifice height in the jack, in order to get other and more desirable qualities. I would not fuss about the head, but look for individual qualities; to do this is to win, regardless of the particular breed of jack used.

FEEDING THE MULE.

There is a prevailing opinion that mules may be fed on less food than horses of the same size and weight; but this is an error. While it may be true that the mule will utilize inferior feeding-stuffs to a better advantage than his more aristocratic associates, still, to do the work that he is called upon to do, the mule demands a quantity of food equally as great as that of his horse relatives. This is not a mere conjecture with me, for years of observation and extended feeding periods, in which horses and mules have been compared, with the use of a great many kinds of feeding-stuffs, and for given kinds of work, all computed on a basis of equal weight, have shown that the mule demands quantities of feed as large as horses. Some trials show that the mule has marked preference for certain foods, or a marked dislike for other foods—a discrimination even more sensitive than that of the horse.

DISEASE IMMUNITY.

The mule shows considerable disease immunity—a marked advantage over the horse. He stands hardships and all sorts of extremes; and these seemingly he endures without pain or annoyance. He may be worn-out at night, but with a short rest and a little food he is fresh and ready for the morrow and all the toils it may bring.

I am not overstating the case when I suggest that for work involving hardship and drudgery, in heat or rain; for disagreeable labor—heavy, constant, tiring—two one-thousand pound mules will do more work during the course of a busy summer season than three horses of the same weight.

WHY THE MULE MERITS FAVOR.

The following facts show the importance of the place occupied by the mule:

1. The mule possesses the size and activity of the horse and the hardihood of the ass.
2. The mule surpasses both parents in surefootedness and in longevity.
3. The mule is first in endurance, and

in powers of recuperation from fatigue and from exhaustion when overworked.

4. Well-bred mules are more active and quicker when put to hard work, and are quite as spirited as horses.

5. Mules possess considerable intelligence that may be trained, making them even safer than well-trained horses.

POINTS IN FAVOR OF MULES IN RAISING.

The mule is being appreciated more each year since we have learned:

- (1) That it costs less to breed and raise a mule to a suitable size than a horse;
- (2) that less time is required to prepare a lot of mules than a lot of colts for the market;
- (3) that young mules may be sold readily at any period and in any amount;
- (4) that mule colts uniformly command a higher price than horse colts of similar relative quality and value;
- (5) that mules are subject to fewer diseases and less liable to serious accidents.

With these points in mind, we can readily see why it is that mules are increasing so rapidly, and why it is, also, that they are being used and appreciated for so many kinds of work.

Wool and Mutton Outlook.

The outlook for a continuation of present satisfactory prices for wool and mutton is very bright, and the flockmasters are showing their confidence in the future of the industry by stocking the ranges to their fullest capacity. Not even the danger of a severe winter cuts any figure with the muttonaires of the Western plains, for with few exceptions all have provided amply for the deep snows and blasts of winter. Hundreds of stacks of meadow hay and alfalfa dot the valleys at the home ranches, and unless the weather is unusually severe and the storms prolonged, there is little likelihood of serious losses so long as these food supplies can be drawn upon. With the old, toothless, and nondescript ewes and wethers and surplus lambs marketed, with these immense reserve hay supplies, and with the pick of the young stock going into the winter, the flockmasters of the West are in high feather. They anticipate a favorable and prosperous season, and their hopes are sure to be realized.—American Shippers' Bulletin.

Swine-Feeding Tests.—Armour's Deodorized Meat-Meal and Alfalfa Hay as Supplementary Feed to Corn.

PRESS BULLETIN NO. 149, KANSAS AGRICULTURAL COLLEGE.

Numerous questions are being received at the Kansas Experiment Station as to the value of the various packing-house by-products recommended for swine-feeding in connection with corn, and during the winter of 1905-'06 an experiment was carried on to secure more data on the subject. The value of alfalfa hay as a means of increasing the value of corn in pork-production was also made the subject of one test in this experiment. Its value for growing swine and breeding stock has been recognized for some time, but its value in the fattening-pen is still a subject of inquiry. Thirty strong, thrifty shoats were available for this experiment, and they were divided as equally as possible into three lots of ten pigs each. The pigs were all cross-bred, and in the division an equal number of each particular cross were placed in each of the three lots as follows:

Three Berkshire X Yorkshire pigs, three Berkshire X Tamworth pigs, two Poland-China X Berkshire pigs, and two Poland-China X Duroc-Jersey pigs. The average weights of these three lots on October 9, 1905, when the experiment began, were as follows:

Lot I, 129 pounds; Lot II, 127.5 pounds; and Lot III, 131 pounds. The rations were as follows:

Lot I, cornmeal, Lot II, cornmeal % and Armour's deodorized meat-meal ¼. Lot III, cornmeal and all the alfalfa hay they would consume.

A feed-rack was used for the alfalfa hay similar to a sheep-rack without legs. This method kept alfalfa hay before them at all times without waste. The hay was fed uncut.

The value received per bushel for corn marketed via the pork route is an excellent method of calculating the profit from feeding. In the case of Lot I, figuring the cost of the pigs at the beginning of the experiment at 4 cents per pound, we have the difference between \$51.60 and \$123.54, or \$71.94, to credit to the 13.73 bushels of corn which each pig consumed, returning a value of 52 cents per bushel for the corn. With Lot II, after deducting from the \$169.72 received for the hogs at the market, the cost at 4 cents, or \$51, and the cost of the meat-meal fed, we have \$87.68 to credit to the 14 bush-

Before You Buy

Your Next Lot of Stock Food, do these Two Things:

- 1st—Examine several different kinds—smell them and taste them;
- 2nd—Read carefully the feeding directions and figure out how long a dollar's worth of each kind will last. You will find that

Standard Stock Food



looks better, smells better, tastes better and is better than any other, because it is richer, purer and more concentrated.

You will also find that because it is so much better, you need use but a very little of it at each feeding, so that a dollar's worth of it lasts longer, goes farther and does more good than a dollar's worth of any other. Not only the best, but also costs you the least. Sold on our square-deal, money-back guaranty.

Go to Your Dealer

and ask him to supply you. If he cannot, do not take a substitute but send to us direct.

We will ship immediately and protect you with our square-deal, money-back guaranty.

Free to You.

Our big book, "The Standard Feeder," 160 pages, 200 illustrations, 12 chapters on the feeding, care and handling of all kinds of live stock. Regular price 50 cents, and you could not buy its equal at several times the price. But free to you if you give us the name of your dealer and tell us how much stock you keep.

STANDARD STOCK FOOD CO.,
1517 Howard St., Omaha, Neb.

ONEIDA COMMUNITY TRAPS



The **NEWHOUSE TRAP** is the best in the world. It is a perfect machine. Hand-fitted! Thoroughly inspected and tested!

The **VICTOR TRAP** is the only reliable low-priced trap. Don't buy cheap imitations. Be sure the Trap Pan reads as follows:



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Send 25 cents for the **Newhouse Trappers' Guide**. Tells best method of trapping and skinning game. Send to Dept. A.8. Oneida Community, Ltd., Oneida, N. Y.

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The only MAGAZINE devoted to the interests of the trapper. Send 10 cents for copy. A. R. HARDING PUB. CO., Columbus, Ohio

INCUBATORS 40 DAYS FREE TRIAL



The Great Western Incubator has the best hatching record. It is the easiest to operate. It is the lowest priced Good hot water incubator made.

GUARANTEED FOR 10 YEARS Shipped anywhere on 40 days FREE TRIAL—use it, test it. If it is not all we claim return it at our expense. Write for complete FREE catalog of Great Western incubators and brooders.

GREAT WESTERN INCUBATOR CO.,
909 Liberty St., Kansas City, Mo.

Established 1880.

Southward & Johnston

—Dealers in—

Hides, Wool, Furs, Pelts.

WICHITA, KANS.

Branch houses—Lyons, Kans., Guthrie, Okla.

Shipping tags and price lists free on application. Write us, try us, and mention The Kansas Farmer

els of corn which each pig consumed, or a value of 62½ cents per bushel. With Lot III we have left \$77.32 to credit to the 14.06 bushels of corn consumed per pig, after deducting \$52.40, the original cost of the ten pigs, and \$5.36, the cost of the hay consumed. This gives a value of 55 cents per bushel for the corn

est scoring White Plymouth Rocks in the West. His winnings at the Kansas State Poultry Shows well prove this statement to be true. In the 1904 show at Topeka he won 1st cock, 1st cock-erel, 1st pen, 2d pullet, and 3d hen. In the 1906 show he won 1st and 4th hen, 1st and 4th pen, 1st cock, 2 cock, and 2d pullet. These were probably the greatest shows ever held west of the

That is why it is such a valuable feed for young and growing animals and those that are being used for breeding purposes, for protein is that nutrient which goes to develop bone and muscle. It is the basis of blood, the source of casein in milk. It is the most valuable property in feed-stuffs.

This company also manufactures "The Every-Day Egg-Producer," a splendid feed for laying hens, "The Otto Weiss Chick Feed," for young chickens, "The Otto Weiss Hen Feed," which is a perfect, balanced ration, "Alfalfa Meal," "Alfalfa Hog Feed," a scientific mixed feed for the development of the hog, and many other products of equal value and merit. The use of these products is not an experiment, all of them having been thoroughly tested and some of them used for many years with the most satisfactory results. This is undoubtedly the largest manufactory of its kind in the world, and means much to the great stock-growing interests of our country, for it means better feed, and better feed means better stock. The number of valuable animals is constantly increasing. The breeder must feed to obtain the most perfect results, for therein lies his greatest profit. Therefore, the use of these products must be of the greatest importance to the farmer and stockman.

This company's advertisement will appear in THE KANSAS FARMER from week to week. If you are not using its goods, give them a trial and you will find them all that they are recommended to be. If the Otto Weiss Alfalfa Stock Food Company has no agent in your locality write it direct to Wichita, Kans., mentioning THE KANSAS FARMER, and you will receive a prompt reply.



Type A
OLDS ENGINES

There is no gas engine as simple as an Olds—compare it with others and this statement is proved. The repairs cost practically nothing.

The Most Economical Engine

For pumping, sawing wood, feed grinding, churning, and all farm work.

The reason why is interestingly told in our catalog mailed on request. Tell us your requirements and we will help you figure out what you need. Send for our catalog showing Type A (2-8 h. p.), Type G (8-50 h. p.), Types K and N (12-1200 h. p., used with our Gas Producer, it will reduce fuel cost 75 per cent.)

Celebrated Picture Free.

For 4c in stamps to pay cost of mailing we will also send you Rosa Bonheur's "Horse Fair," the most celebrated animal picture in the world, size 15x20 beautifully colored, suitable for framing.

'Olds' a Power Co.,
20 Chestnut St., Philadelphia.
Branches: K. C. and Omaha.

TABLE I—WEIGHTS AND GAINS.

No. of pigs.	Days fed.	Weight Oct. 9, 1905.	Weight Jan. 29, 1906.	Total gain, lbs.	Av. daily gain per head, lbs.
I.	10	1,290	2,400	1,110	.99
II.	10	1,275	3,250	1,975	1.76
III.	10	1,310	2,630	1,320	1.18

TABLE II—FINANCIAL STATEMENT.

	Wt. at beginning.	Value at beginning, \$4 per cwt.	Wt. on Topeka mar- ket, lbs.	Selling price per cwt.	Proceeds on market, \$123.54	Av. expense per lot, \$3.50	Total cost, \$103.16	Net profit, \$2.04
I.	1,290	\$51.60	2,320	\$5.32½	\$123.54	\$3.50	\$103.16	\$2.04
II.	1,275	51.00	3,143	5.40	169.72	3.50	134.59	3.51
III.	1,310	52.40	2,525	5.35	135.08	3.50	110.48	2.46

TABLE III—FEED-COST AND COST OF GAINS.

Kind of feed.	Pounds fed.	Value of feed consumed.		Cost of gain per cwt.	Pounds of gain per 100 lbs. of gain.
		Per cwt.	Total.		
I.	7,690	\$0.62½	\$48.06	\$4.33	692.8
II.	7,848	62½	49.05	4.05	397.3
III.	1,552	2.00	31.04		78.5
Total.			\$80.09		
I.	7,875	62½	\$49.22	4.13	596.5
II.	1,340	40	5.36		101.5
Total.			\$54.58		

fed. This shows that 20 per cent is added to the value of corn by feeding meat-meal at \$2 per cwt. as a supplementary feed, and 5.8 per cent added to the value of the corn by alfalfa hay at \$8 per ton.

These hogs were shipped direct to the Chas. Wolff packing-house, Topeka, Kans., and slaughter tests were obtained of the different lots. The Government inspector, Dr. DeWolf, pronounced the whole bunch as unusually healthy. The lymphatic glands were large and soft, and only one case of parasitic infection of the liver was

Mississippi, birds being shipped from all parts of the country.

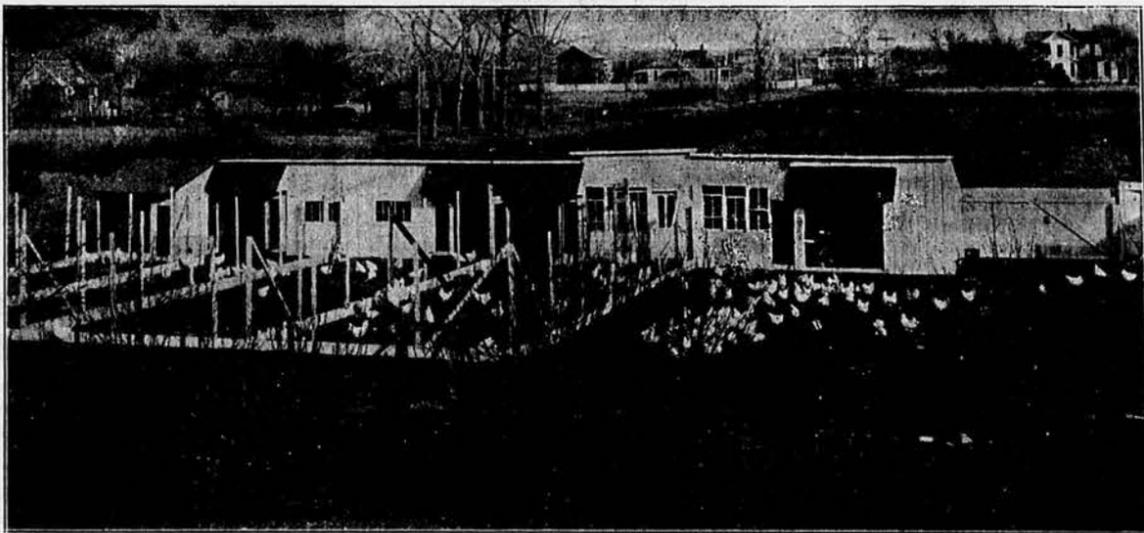
Mr. Davis has taken great pains in mating his pens, in order to improve his stock, as his successful winnings of three firsts and two seconds at these two great shows will prove. Mr. Davis starts his advertisement in this issue of THE KANSAS FARMER. If you are interested in getting the best, write him at once, for such birds as these won't last long. When you write mention THE KANSAS FARMER.

A Breeders' Shorthorn Sale.

The Shawnee Breeders' Association has arranged to hold a breeders' combination sale of Shorthorn cattle during the meeting of the Kansas Im-

The Capital Bluff Hereford Sale.

On Wednesday, December 19, 1906, E. R. Morgan, of Blue Rapids, Kans., will sell a fine offering of Hereford cattle consisting of a number of young heifers, some with calf at side, and a number of herd-bulls ranging in age from 1 to 2 years old. Practically all of the offering is young and selected from the best stock in his herd. The Capital Bluff Herefords are well known to breeders of Hereford cattle, and the great bull, Onward the 18th, who stands at the head of this herd is one of the greatest individuals in the country. He has never been defeated in



Home of the Davis White Plymouth Rocks.

found. All had more leaf-lard than the average hog sold on the market. The amounts for the different lots were as follows: Lot I, 90 pounds; Lot II, 94 pounds; Lot III, 90 pounds. Although Lot II seemed much fatter and heavier on foot, the leaf-lard was but slightly greater. The superintendent of the packing-house, Mr. J. B. Nicholson, stated that the flesh of Lot II seemed firmer than the others in the warm conditions. The hogs receiving alfalfa hay showed very fine carcasses.

The results of this experiment serve to emphasize the importance of converting the raw material of the farm into a more finished product in order to secure higher prices on the market, and also to retain a much higher per cent of the fertilizing value of the grain. For this purpose no farm animal is better fitted than the well-bred, thrifty hog when fed and cared for in a rational manner.

Home of the Davis White Plymouth Rocks.

If the readers of THE KANSAS FARMER would see a beautiful sight, they should visit the poultry farm of G. R. Davis, at Valley Center, Kans., and see his White Plymouth Rocks. Here can be found more than a thousand of these birds, with beautiful white plumage. Indeed, the visitor could easily be made to believe that it was snow on which he was looking, so many are there of them and so dazzling is their snowy plumage.

Mr. Davis has been many years developing his flock to its present perfection, until now the "Davis White Rock" is known and recognized in many States as the very highest type of this wonderful breed of fowls. Mr. Davis probably has the largest poultry-farm in the West. His colony houses, yards, and range occupies 20 acres. Here can be found every comfort and convenience that is necessary for the care and welfare of his splendid White Rocks.

Mr. Davis also has some of the high-

proved Stock Breeders' Association early in January. The sale will be held in the exposition building at the State fair grounds on Wednesday afternoon, January 9, 1907. This sale will be made up of cattle from some of the best-known herds in Kansas and will be a choice lot in fine breeding condition. Several choice herd-bulls of pure Scotch breeding will be offered that will be prizes to the buyers. The best Scotch and Scotch-topped cattle are included. Read the advertisement on page 1346.

Also note that R. B. Marshall, of Willard, Kans., will hold a great sale of finely bred and high quality Duroc-Jersey swine on Thursday, January 10, 1907. There will be 125 head in this sale which will be held at the Spring Branch Farm just south of Willard.

These two sales will give the breeders and farmers who attend the Improved Stock Breeders' and the State Board of Agriculture meetings a great opportunity to buy choice Shorthorns and Duroc-Jerseys at their own prices. For catalogues of the Shorthorn sale address I. D. Graham, Topeka, and for catalogues of the Duroc-Jersey sale address R. B. Marshall, Willard, Kans.

The Otto Weiss Alfalfa Stock Food Company.

One of the great and growing industries of Wichita, the queen city, is the Otto Weiss Alfalfa Stock Food Company.

This company, which is incorporated with a capital stock of \$100,000, has just completed a plant with a daily capacity of 200,000 pounds for the manufacture of its alfalfa-products. Its plant is equipped with the most modern machinery, and no expense has been spared to obtain the most perfect results. Its alfalfa stock food is not a conditioner, but a food, a perfect balanced ration, made from choice selected alfalfa, oil-meal, mill feed, grain, and other ingredients that are cooling and nourishing. This makes a ration for horses, cattle, sheep, hogs, and poultry not equalled by any other feed on the market. Every other farmer and stockman knows the value of alfalfa as a feed for stock. The reason for this is the large amount of protein that it contains. Alfalfa contains 18 per cent of protein and mineral matter, while corn contains only 9 per cent,

the show-ring, one of his recent records being made at the Nebraska State Fair, where in one of the hottest classes of the year he carried off the first prize and the grand championship honors. Any one who is in need of a good herd-bull or some fine heifers should not fail to attend this sale. The catalogue is now ready and will be sent for the asking.

McLaughlin Bros. Win at Chicago.

At the great International Live Stock Show held in Chicago last week, McLaughlin Bros.' Percherons came in competition with the best horses of the United States and Canada. Their 4-year-old stallion, Etradagant, won the grand championship over all ages. Their 2-year-old stallion, Dragon, won first prize in class and was afterwards sold to President John A. Spoor, of the Union Stock Yards Company, for \$5,000. Etradagant won the grand championships at the American Royal, the Ohio State Fair, the Iowa State Fair, and the Missouri State Fair before going to Chicago last week.

Gossip About Stock.

H. C. Dawson & Sons, of Endicott, Neb., announce that they have had a fine trade in Poland-Chinas and are now sold out of boars, having sold 150 boars and gilts this season. They still have 100 sows to sell, but are holding them until after their bred-sow sale on January 12.

THE KANSAS FARMER is in receipt of a recent letter from Mr. and Mrs. Henry Shrader, of Wauneta, Kans., in which they say their Duroc-Jersey gilts are doing nicely. They have some good stuff, many of them prize-winners. Their gilts are bred to such sires as Missouri's Wonder, he by Missouri's Pride and out of Ideal Wonder; also Oom Paul 3d, he by Takoma Paul, who weighed 800 pounds at 1 year old. Look up their advertisement in this issue and write them.

N. B. Sawyer, proprietor of the Pioneer Herd of Duroc-Jersey swine at Cherryvale, reports that he is beginning to have orders for some very choice hogs and is making prices attractive to breeders. He reports that



Cownie Fur Coats

Are the only Fur Coats Made that have a two year written Guarantee.

NOT one skin is used in a Cownie coat that is not taken off in Dec. or Jan when the fur is the best. Not one drop of strong acid or chemicals is used in the tanning of these hides. That's why we can guarantee a Cownie Coat twice as long as any other fur coat made. If your dealer cannot supply you write us.

J. H. Cownie Glove Co.,
Des Moines, Ia.

THE INGERSOLL DOLLAR WATCH



A First-class Nickel Watch, guaranteed a reliable time piece. Popular present for the boys. Sent only to our subscribers. The Kansas Farmer one year and the Yankee Watch delivered to your address for only

=\$1.50=

By THE KANSAS FARMER CO.,
Topeka, Kans.



STEREOSCOPES
FOR NAMES OF FARMERS

The Farm Magazine Co. wants names of farmers likely to be interested in their big, handsomely illustrated farm paper. For 5 names they will allow our readers 25c and a stereoscopic outfit. The subscription price is 50c. Send 5 names and addresses of farmers and 25c. The publishers will enter you as a subscriber fully paid for 1 year. They will mail you FREE a boys' and girls' stereoscope and 50 views. Address, FARM MAGAZINE CO., BOX OMAHA, NEB.

the average of the Stodder and Marshall Bros. sale at Burden was \$30 for forty-seven head. Mr. Sawyer has five different strains of breeding represented in the twenty excellent boars he now has for ready sale.

J. S. White, one of the large owners of Duroc-Jersey swine at Topeka and Valencia, Kans., has just purchased from J. W. Reid, of Portis, Kans., a fine male and a gilt. The male is a full brother to the gilt sold by Mr. Reid at the American Royal at Kansas City in October last for a long price. Mr. White is well pleased with his purchase, as it is to be used for foundation stock at his farm near Topeka. Announcement of his breeding establishment will be made later in these columns.

McLaughlin Bros., of Columbus and Kansas City, write: "We have just received, from Mr. James B. McLaughlin, a cable message saying that he sailed from London to-day with 102 stallions. This is our last importation for the year 1906 and the total number for this year comprises more Percheron and French Coach stallions than have been imported by all of our competitors combined. We not only bring over the largest number, but ours are the very best horses that France produces, as is shown by our unbroken record of winnings in France and also in America."

Want a Pocketbook?

Charles E. Ellis, publisher of the Metropolitan and Rural Home, offers to give away 5,000 pocketbooks as explained in his advertisement in our issue of October 25. His offer is to send on receipt of a small amount, stated in his announcement, one of the pocketbooks and a year's subscription to his publication. After the three months have expired, if you order the Metropolitan and Rural Home discontinued to your address, Mr. Ellis will return the money paid him; if you like the publication and ask him to continue it, the amount you have paid will pay for a year's subscription, the pocketbook will be yours, and you will enjoy a high-class rural monthly magazine. The pocketbook is a very attractive, substantial article that looks like a bargain in connection with a year's subscription to the paper. Mr. Ellis explains his proposition in a straightforward talk. It is worth investigating. When writing him, be sure to mention THE KANSAS FARMER.

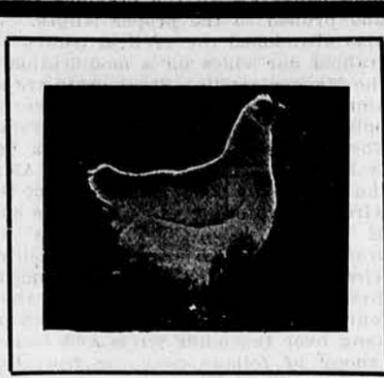
Highland Park College.

The readers of this paper have undoubtedly noticed the large and excellent advertisement of Highland Park College, Des Moines, Iowa, that has been running in it. This institution is, indeed, one of the great schools of the West, and any of our patrons that wish to send their children away to a first-class school will make no mistake if they choose Highland Park College.

It will be noticed that Highland Park College has not only the regular college courses, but that it has some special courses in engineering, pharmacy, business, shorthand, typewriting, oratory, music, penmanship, and normal work that are more complete than can be found in almost any of the larger institutions of the country. The attendance at this school has always been large and the work is universally regarded as the best. A special winter term opens January 2.

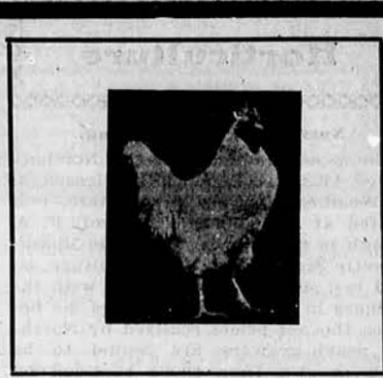
Names of Farmers Wanted.

The Farm Magazine Co. wants names of farmers likely to be interested in their big, handsomely illustrated farm paper. For five names they will allow our readers 40 cents. The subscription price is 50 cents. Send five names and addresses of farmers and 10 cents, silver or stamps. The publishers will enter you as a subscriber fully paid for one year. They will also mail you free "The Horse and Cattle Doctor." This valuable book tells how to cure quickly all diseases of farm animals. Address, Farm Magazine Co., Box T, Omaha, Neb.



DAVIS' White Plymouth Rocks

SHOW BIRDS FOR SALE



I raise my own show birds; they win for me; they will win for you. Write for prices on stock. 500 cockerels for sale.

G. R. DAVIS,

∴ ∴

Valley Center, Kans.

Lamentable Ignorance.

It was visiting day at the kindergarten and the young teacher was proud of her little pupils as they went through their drills and exercises and beamed with pleasure at the appreciation shown by the visitors, who applauded generously. Then came the lesson and the teacher announced the subject.

"Children," she said, "to-day we are going to learn about the cat, and I want you to tell me what you know about it. Tommy, how many legs has the cat?"

"Four," replied Tommy, proudly conscious of rectitude.

"Yes, and, Daisy, what else has the cat?"

"Claws an' tail," murmured Daisy, shyly.

Various other portions of feline anatomy were ascertained and finally the instructress turned to one of the latest acquisitions of the kindergarten and said, sweetly:

"Now, Mary, can you tell me whether the cat has fur or feathers?"

With scorn and contempt, mingled with a vast surprise, Mary said:

"Gee, teacher, ain't you never seen a cat?"

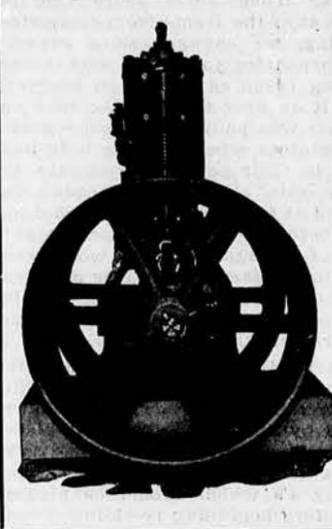
And the lesson came to an abrupt end.—Buffalo Evening News.

Kansas Beekeepers.

The annual meeting of the Kansas State Beekeepers' Association will meet at the National Hotel, in Topeka, December 27-28. All persons interested in bees in this and other States are invited to attend and participate in the discussions. It is earnestly hoped that as some subjects of vital importance will come up for discussion, a large attendance will be present. By order of Dr. G. Bohrer, president.

O. A. KEENE, Secretary.

Why should a timber merchant not be allowed to saw his own timber? Because no one is allowed to cut when it is his own deal.



The Kuhner Water Cooled Gasoline Engine

is the Simplest, Most Economical, Durable and Reliable on the market. An Engine wherever Power is needed. Is reliable in all kinds of weather, in or out of doors, and is made for hard wear. Each and every Engine guaranteed one year. Send for catalogue K. Points: Water cooled, Simplicity, Best Material, Modern Appliances, Adjustable Bearings.

KUHNER ENGINE & MACHINE CO., 303 Fourth St., Rock Island, Ill.

Special Club List.

In order that we may save our regular subscribers some money, and at the same time supply the very best newspapers and magazines, we have selected a few representative journals, such as are most in demand, which we offer at a very low combination rate for one year exclusively for subscribers of THE KANSAS FARMER. If more than one paper or magazine is desired, in each case subtract one dollar from the combination rate; the remainder represents the amount for the other one. We supply sample copies of THE KANSAS FARMER only.

	Regular price.	Clubbed with Farmer.
Bee Journal	\$1.00	\$1.75
American Swineherd	.50	1.25
Breeder's Gazette	2.00	2.00
Capital	1.00	1.20
Apple Specialist (2 yrs.)	1.00	1.25
American Boy	1.00	1.50
The Commoner (Bryan's)	1.00	1.60
Cosmopolitan Magazine	1.00	1.60
Delineator	1.00	1.90
Everybody's Magazine	1.00	1.75
Fruit Grower	1.00	1.50
Good Housekeeping	1.00	1.50
Housekeeper	1.00	1.40
Harper's Magazine	4.00	4.00
Harper's Round Table	2.00	2.50
Harper's Weekly	4.00	4.25
Hoard's Dairyman	1.00	1.70
Holstein-Friesian Register	1.00	1.50
Irrigation Age	1.00	1.50
Poultry Gazette	.50	1.15
Jersey Bulletin	2.00	2.00
Kansas City Daily Star (new)	4.00	4.00
Kansas City Daily Star (renewal)	4.00	4.00
Kansas City Journal	1.00	1.15
Kansas City Times (w'kly)	1.00	1.15
The Horseman, Chicago	3.00	3.00
The Helpful Hen	.25	1.15
Prairie Farmer	1.00	1.35
Review of Reviews	3.00	2.50
Success Magazine	1.00	1.70
Scientific Farmer	1.00	1.50
Woman's Home Companion	1.00	1.65
DAILIES.		
The Topeka Capital	4.00	4.00
Kansas City Journal	3.00	3.50
Kansas City World	2.00	2.00
Kansas City Star and Times	5.20	5.20
Woman's National Daily	1.00	1.60

Pure Sorghum.

"Wheeler's Sorghum" is standard in Southeast Kansas. The factory was established on its present site in 1882 and received the silver medal at the World's Fair at St. Louis in competition with the world. If interested in good sorghum read advertisement in the Special Want Column.

Does Its Work on all Kinds of Bad Legs.

Ascot Park, Los Angeles, Cal., February 4, 1906.

Dr. B. J. Dendall Co.

Dear Sirs:—I have been using your Spavin Cure all winter, and find it is the best liniment I have ever used; I use it on all kinds of bad legs and find it does the work, and I would like you to send me a book to direct me how to use the Spavin Cure.

Yours very truly,
J. H. BUSCHER.

THE Otto Weiss Alfalfa Stock Food

A Balanced Ration Equal to Oil Meal.

EVERY-DAY EGG-PRODUCER, an alfalfa mash for laying hens. ALFALFA POULTRY FOOD, in 2 1/2 lb. packages, best and cheapest egg producer in the world. ALFALFA HOG CHOLERA CURE, the best preventive and only cure for hog cholera. Largest alfalfa mill in the world. All kinds of Poultry Supplies. Send for free circular.

The Otto Weiss Alfalfa Stock Food Co. 221-227 So. Santa Fe, Wichita, Kans., U. S. A.

The Old Reliable Anti-Friction Four Burr Mills.



(Double the capacity of other mills) Two horse mill has 24 ft. grinding burrs all grinding at once and grinds from 25 to 50 bu. per hour. Four horse mill has 30 ft. of grinding burrs and grinds from 60 to 80 bu. per hour.

30,000 Bushels With One Set of Burrs.

"I have used a Mogul No. 1 mill for seven years and it has ground, without set of burrs, more than 30,000 bushels of corn and the burrs are still in good condition."—F. F. Craig, Mt. Carroll, Ill. Absolutely no friction on gearing. Will earn cost price in three days. The largest ears of corn to these mills are like pop corn to other mills. We manufacture the most durable and fastest grinding line of mills sold, including our Famous Iowa No. 2 for \$12.50. Send for our free catalogue Boyce Grind-er & Furnace Works, Waterloo, Iowa.

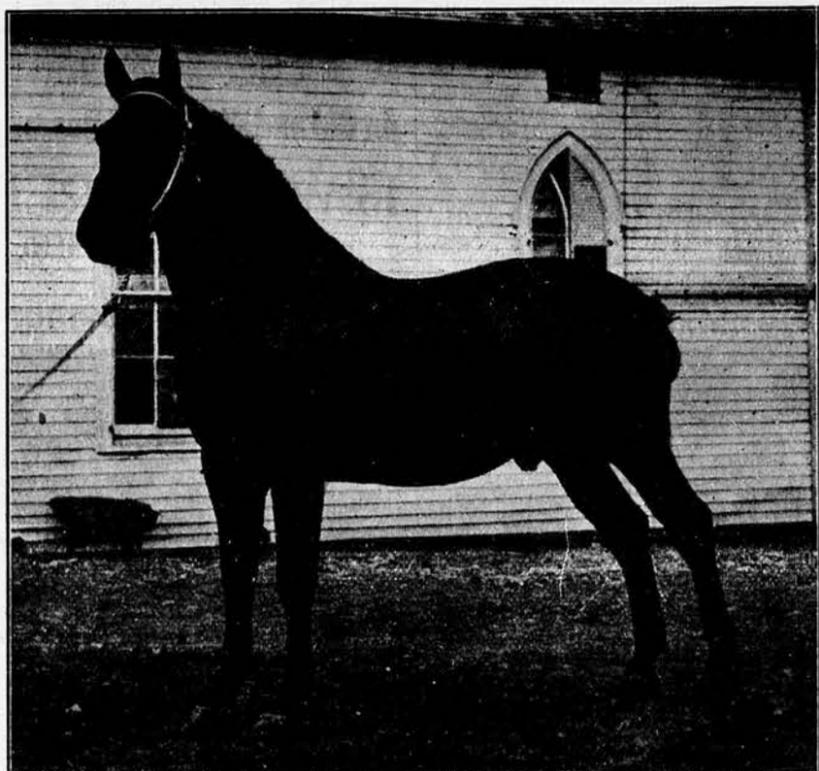
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CEMENT POST MOLDS. Send for free catalogue describing different styles. Prices from \$5.00 up. C. L. Catherman, Elkhart, Ind.

Jones Nat'l Auctioneering School of Oratory, 231 Ashland Blvd., Chicago, Ill., all branches. Special instructors. Term opens soon. Free catalogue. Carey M. Jones, Pres.



Finish 1806, German Coach Stallion on Cheyenne Valley Breeding Farm, Owned by F. H. Schrepel, Ellinwood, Kans. Photograph by The Kansas Farmer Man.

Horticulture

Northern Peach-Growing.

The peach industry in the Northern States [Kansas is officially classed as a "Western North Central State."] is treated at some length by Prof. F. A. Waugh in the crop report of the Massachusetts State Board of Agriculture, issued last week. As compared with the business in the Southern States, he believes the net prices realized by Northern peach-growers are bound to be much greater than those received by the peach-grower of the South, because of the smaller expense in shipment, refrigerating, etc., and the better condition of the fruit.

LOCATION.

Professor Waugh expresses some doubt about the common advice to plant peaches on northeastern slopes, as he believes that peach-trees are injured by hard freezing in winter rather than by late frosts. Warm, gravelly hilltops and hillsides are advised, but heavy, cold, clay soils are unsuitable, although by grafting on plum roots peach-trees can be adapted to heavier soils.

FALL PLANTING

is found favorable if the soil is in good condition, the trees fresh and sound, the planting well done, and a favorable winter follows; but if conditions are not favorable, spring planting is safer. One-year-old trees are advised of medium to large size. Southern-grown trees are considered as good as any.

TREES SHOULD BE CUT BACK

top and root when planted. Professor Waugh advised to cut back all the branches and also the main stem to a height of not more than sixteen to twenty inches, claiming that the results of this severe treatment are always gratifying.

Trees should be planted ten to twenty feet apart, according to method of treatment and soil, trees which are kept headed in being more closely planted. The cultivation method is recommended by practically all commercial growers.

THE LAND

should be plowed each year early in the spring, cultivated frequently until midsummer, then planted to a cover-crop of clovers, vetch, beans and barley, buckwheat, winter rye or oats. Cover-crops should be sown thickly in order to make a heavy covering. When cover-crops are used not much nitrogen fertilizer will be needed. The formula quoted advises fifty pounds nitrate of soda, one hundred pounds dry blood, two hundred pounds cottonseed meal, six hundred pounds acid phosphate, 340 pounds muriate of potash, a total of 1190 pounds for an acre. About one-half this quantity per acre, however, is considered enough for average soils. Experience at the college orchard indicates that trees which make the most vigorous growth are the ones which best withstand the severe winters.

PRUNING

should be done in early spring and again in midsummer. Trees should be headed back at the spring pruning, leaving just enough one-year-old wood to carry a reasonable crop of fruit. If the fruit buds have been killed by freezing, heading back may be somewhat more severe, cutting back to two-year-old wood. Summer pruning should be directed to the removal of excessive growth, which shuts out the light from the interior and prevents coloring of the fruit and formation of fruit buds. Whether summer pruning is done or not, considerable thinning is advisable in any year when the crop sets reasonably well. Money spent on thinning pays a large profit.

DRAWBACKS.

The great danger in peach-growing in the North is a possibility of heavy winter freezing. Trees once badly frozen will never fully recover. The curculio is not considered a serious pest. Rot may to some extent be prevented by thorough spraying with bordeaux mixture before the buds open in the spring. Trees affected with the yellows should be dug up and burned. The San Jose scale is the most serious pest and seems to have a special preference for peach-trees. The lime sulfur spray is considered most effective.

FOR MARKETING

fancy early varieties, the two-quart basket is found most successful for the local markets. For shipping to considerable distances, the four-quart basket, six in a crate, is satisfactory. For short shipments the favorite basket is

the one-half bushel Jersey form. Baskets should be secured before the marketing season. A long list of varieties is given, attention being called to the fact that good, white-fleshed peaches are becoming more popular, such as Greensboro, Hiley, Widdell, Belle of Georgia. The Elberta is considered the most profitable of peaches. For home use are named Greensboro, Early Crawford, Early Rose, Foster, Belle of Georgia, Crosby, giving a succession through the season. For market, profitable varieties are a succession of Greensboro, Mountain Rose, Elberta, Crawford Early, Crawford Late and Oldmixon.

Barn Siding—Some Experience.

EDITOR KANSAS FARMER:—In the last issue of THE KANSAS FARMER, I noticed an inquiry concerning siding for a barn. Let me give our experience with drop-siding. In 1899 we built a barn, siding it with the best hard pine drop-siding obtainable and painting it with two coats of paint the following spring. The rain beat through right from the start, running down inside and rotting the sills. Then, three years ago, in order to save the frame from completely rotting, we engaged some experienced carpenters to side it with cedar lap-siding (such as is used on houses), nailing it on over the old. As soon as finished it was painted by good experienced painters who used the best linseed-oil in their paint, and, strange to say, the rain still comes through in spots and at the corners, though not as bad as before. The same story might be told of a neighbor's barn which was treated in the same way. This all goes to show that horizontal weather-boards are not a success in spite of good lumber, workmanship, and paint.

I would advise your correspondent, should he conclude not to use steel siding, to get a good grade of soft pine boards, 1 by 12, and side his barn, placing them vertically and nailing every 3 1/2 or 4 feet through the old siding into 2 by 4's which should be placed inside before beginning re-siding. Then get the old-fashioned battens one inch thick and nail in the center of batten only and at the same point where the board is nailed. Use 10- or 16-penny nails and nail through the crack left between boards, otherwise warping and swelling will split the battens. Paint before placing battens on.

Concerning sheet-metal siding, I have had no experience.

Two years ago I built a workshop, using 1 by 12 vertical siding and 1 inch thick battens and for keeping the rain out this siding is a success. Harvey County. C. R. D.

Pruning Grapes.

It is very common to read advice in regard to the pruning of grapes, urging the pruning in fall or very early spring to prevent the bleeding of vines. In a cold climate we would never prune in the fall because of winter-killing of the canes, and in a warm climate we would not prune in the fall or winter because the vines are apt to start too early and be caught by the late frosts that are often so disastrous in the South. Years ago we had quite a large vineyard in North Carolina. There were large vineyards all around us owned by Northern men, who pruned their vines in the winter. We deferred pruning ours until just before growth began in spring. Our neighbors told us that we were too late and that the vines would bleed disastrously. That spring the weather turned out very warm in February and their vines started into growth at once. Then in early March there was a hard freeze, and their young growth was destroyed, while our vines were still dormant and were not hurt at all. In the spring of 1894 the weather became hot the last of February and was summer-like during the greater part of March. Vines and all other vegetation started, and there were shoots on the early pruned vines nearly six inches long. On the night of March 25 the mercury fell to 21° above zero. Our vines had just been pruned and the buds were but slightly swelled, and we escaped again, though the vines in our cold graperies under glass had their shoots frozen, as we had no means for heating the structure. Now it has become the general practise there to prune late. Vines that are pruned just before starting into growth will bleed, of course, but the bleeding is soon stopped by the starting of the new growth, and really does less harm than if pruned earlier. We long ago quit the old close spur pruning, for we found that the buds farther out on the canes always gave the best clusters, and now we only spur the canes that we want to make long canes for the next season, and get our fruit on the

long canes grown the previous season and pruned to the proper length. We also abandoned the vertical trellis, and trained our vines on a modification of the Munson trellis. Stout posts are set along the rows, and cross-pieces are bolted fast four feet above the ground. These cross-pieces are two and a half feet long. Wires are stretched along the tops of the posts and outside of this wire are two other wires from the ends of the cross-bars. The vines are branched into two arms at the central wire, and these are trained in opposite directions on the central wire about four feet long. The fruiting shoots hang over the outer wires and form a canopy of foliage over the fruit that hangs underneath. At next pruning two other canes are taken from near the junction and the old ones are pruned away. Trained in this way the vines are easily sprayed and the ground kept clean and well cultivated, and the fruit is completely protected from the storms by the shelter of foliage above. In fact, as we said some time ago, we believe that horizontal training of all vines will prove far better than the old vertical training.—The Practical Farmer.

Shawnee Horticulturists.

The December meeting of the Shawnee County Horticultural Society was held at the rooms of the State Society last week. Important steps were taken in a movement to secure the establishment of a canning factory at Topeka.

Steps were taken to prepare a fruit exhibit for the meeting of the State Horticultural Society, December 27, 28, and 29. A committee consisting of O. F. Whitney, A. T. Daniels, W. Wellhouse, B. B. Smyth, and J. M. Kennedy was appointed to arrange for the fruit exhibit at the State meeting and to give a reception to the visiting members of the society.

The annual election of officers of the county horticultural society was held at the meeting. The new officers are B. A. Klein, president; A. T. Daniels, vice-president; and B. B. Smyth, secretary and treasurer.

Pecans.

EDITOR KANSAS FARMER:—In the issue of THE KANSAS FARMER of December 6, we have under the heading, "Pecans and Other Nuts in Commerce," by R. C. Koerber, an inspiration to the farmers to raise pecans.

Now that is just what I want to do, but there are pecans and pecans. Some bring about three times as much on the market as others. Now the questions that I, and perhaps other farmers, would like to know are:

Will the improved varieties thrive and produce abundantly in our Kansas climate? If so, where can the seed be bought? Perhaps THE KANSAS FARMER or R. C. Koerber can give us the desired information. J. W. HYDE. Wilson County.

Soap Kills Insects.

A simple remedy, and effectual if used upon the first appearance of lice on house plants or any out-of-door plants, roses, sweet peas, nasturtiums, chrysanthemums, beans, melons, cucumbers, etc., is a strong solution of ivory soap. Two applications should be sufficient. I have had good success in treating San José scale with two pounds of whale-oil soap to one gallon of water and one pint of kerosene oil, applied to the trunk of the trees and branches with a paint brush as high up as my time and patience will allow, spraying the balance of the tree with the same solution.—A. A. Hixon, Worcester County, Mass.

Best by Test.

The Combination Oil Cure for Cancer and Tumor has its imitators. Beware of them. Write to-day to the Originator for his free books. Dr. D. M. Bye, 316 N. Illinois St., Indianapolis, Ind.

The Youth's Companion Calendar for 1907.

The new Youth's Companion calendar for 1907 is both useful and ornamental. The calendar proper is in bold, clear type, and is given plenty of space. On its decorative side it is exceptionally beautiful. Each of the four panels presents a masterly reproduction of an original painting. On the first leaf will appear "A Venetian Scene," by Thomas Moran; on the second, "A Group of Children," by Maud Humphrey; on the third, "A Study in Bird Life," by Glacomelli; on the fourth, "The Blacksmith Shop," by F. Luis Mora. Each is worth separate framing and for this purpose the panels are loosely tied together, so that each may be exposed in turn, yet all preserved. The panels are 12 inches high by 7 3/4 inches wide. The calendar is copyrighted and published by The Youth's Companion exclusively for those who send \$1.75 for the Companion for 1907.

PRESENT ARMS FOR CHRISTMAS



Give the boys and girls what they want and make them happy. It may be your boy does not want a

STEVENS RIFLE OR SHOTGUN

If so, he's a peculiar boy. Teach him to use one properly. We can help you with our

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to have us show you the wonderful opportunities existing in the South, and how you could improve your present condition?

THE "Seaboard Magazine"

Devoted to the agricultural and industrial development of the South, will point out the many advantages of a location in our mild climate, where life would be a greater pleasure as well as profit by reason of being able to carry on work throughout the entire year. Why battle against the elements. If you want a stock or grain farm, a fruit farm, truck farm, where lands are fertile and productive, in fact, anything, and want it in Virginia, the Carolinas, Georgia, Alabama or Florida, the Magazine will assist you. Sent FREE on request, together with other handsomely illustrated literature descriptive of the south and its wonderful resources and progress. Special low round-trip rates for home-seekers, prospectors and investors.

J. W. WHITE, General Industrial Agent, Portsmouth, Va. Seaboard Air Line Railway, Dept. "X."

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Mrs. Winslow's Soothing Syrup

has been used for over FIFTY YEARS by MILLIONS of Mothers for their CHILDREN while TEETHING, with perfect success. IT SOOTHES the CHILD, SOFTENS the GUMS, ALLAYS all pain, CURES WIND COLIC, and is the best remedy for DIARRHŒA. Sold by Druggists in every part of the world. Be sure and ask for Mrs. Winslow's Soothing Syrup and take no other kind. 25 Cents a Bottle.

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The Kansas Farmer

The "old reliable" KANSAS FARMER, established in 1863, the best genuine agricultural weekly paper in the West. It solves the problems for the busy farmer. It helps and interests every member of the farmer's family. It has 12 regular departments. Its contributors are expert authorities. It contains 24 to 32 pages each week. Sent on trial three months free. Test it. Clip the coupon below.

THE KANSAS FARMER CO., Topeka, Kans.

I accept your trial offer to new subscribers to send me THE KANSAS FARMER three months free. At the end of the three months I will either send \$1.00 for a full year from that date or write you to stop the paper, and you are to make no charge for the three months' trial.

Name

P. O.

Agriculture

Management of Soils to Conserve Moisture.

GEO. H. FAILYER, IN FARMERS' BULLETIN NO. 266, UNITED STATES DEPARTMENT OF AGRICULTURE.

MOVEMENT OF WATER IN SOILS.

[Readers of THE KANSAS FARMER will profit by this bulletin. They will be the more interested when told that the author was raised on a Kansas farm; that he graduated at the Kansas State Agricultural College; that he afterwards became professor of chemistry in his alma mater, in which position he did valuable service for a good many years; that he afterwards returned to the farm and was called from his farm to take a position in the Bureau of Soils in the Department of Agriculture in his alma mater, in which position he still holds. The present contribution to practical agriculture is timely and valuable.—EDITOR KANSAS FARMER.]

The greater part of the water that falls as rain passes into the soil. The proportion that runs off without entering the soil varies with the compactness and inclination of the surface and with the character of the rainfall. The water which does not enter the soil passes downward, the free or gravitational water which forms visible liquid layers on the soil grains or occurs between them being pulled down by gravity. The water held by the soil particles against the force of gravity is called capillary water. It can not be seen as liquid water, but its presence may be recognized by its effect upon the color of the soil. If in too great quantity to be disposed of by capillarity, the rain water runs down into the lower soil and finally joins the so-called ground water, also called bottom water, or permanent water, raising its level temporarily. In drying weather the capillary water evaporates from the surface of the soil, the soil drawing more water from below, but not in sufficient quantity wholly to replace that lost by evaporation, and there is, therefore, a continual decrease in the content of capillary water until another rainfall. The free or permanent water may rise into the soil as capillary water to replace that lost by evaporation, and it is constantly running out of the soil into the natural drainage channels as spring and seepage water. These several motions of water all take place when the rainfall is sufficient to give an excess over what the soil can hold in what has been called the capillary state.

If the surface soil be open and loose, heavy rains completely fill the pore spaces of the upper soil. When the pulverized layer is thin, it often becomes so soft and filled with water that this loose layer washes and greatly injures a field.

THE IDEAL TILTH.

It is from capillary water that agricultural plants, for the most part, obtain the water necessary to their growth. In order that they may make their best development, the soil must be in such physical condition that the roots of plants can readily penetrate it and ramify through it; it must contain sufficient capillary water to supply the needs of the plants; and this water must be renewed as it is taken up. There should be no large air spaces, since these cause the soil to dry out readily and prevent the development of the many fine branching rootlets necessary to the best development of plants. It is somewhat difficult to describe in words this proper mechanical condition of the soil. It is porous but not loose; firm but not hard nor consolidated; close-grained but not run together nor adhesive. The ideal condition is that of a good loamy soil which has been thoroughly pulverized when in best condition as to moisture and has been firmed by pressure. The pulverizing breaks the soil into granules which the pressure brings close together without destroying them. The soil still has a mealy or crumbly texture. In such a soil the roots of plants make their best development. In such a soil, too, beneficial bacterial life finds its most favorable environment. Such soils will take up and hold the most water, not as water is held in a dish but rather as it is held in a sponge. It is free to move under capillary forces, and yet it does not exclude the air, nor interfere with any of the vital, chemical, or physical processes in the soil but is conducive to them. The capillary water in such a soil and the mineral nutrients it contains are read-

ily reached and absorbed by the extending roots of plants.

The soil as a whole is generally drier when the crop matures than it was at seeding time. In this case all the rainfall during the growing season has been lost from the soil by drainage and by evaporation from the soil and from the crop, and some of the water already in the soil at seeding time has likewise been lost. This being true, a condition of soil that will take up the greater proportion of the rainfall and will dispose of it as capillary water is to be desired.

EFFECTS OF TILLAGE.

Proper tillage has two important effects. First, the soil is brought into the desirable condition already described, so that there will be a deep, mellow, but firm seed- and root-bed to absorb and store the rainfall and to prepare plant food, and, second, the loss of water by evaporation from the soil is prevented as far as possible. The operations of tillage may be considered under two heads—the preparation of the seed-bed, and the cultivation of the growing crop. In general, plowing is the most important of the operations in preparing the seed-bed, since it is universally applicable; but there are special cases where draining is the first requisite in bringing the soil into condition.

DRAINAGE.

Need of air in the soil.—There are flat lands and heavy clays where a system of tile drains is of more value than any other treatment that can be given them. Such soils hold water within them in a form that has been designated as free water, or gravitational water—that is, water that is free to move under the influence of gravity. Such a soil acts like a dish or other vessel. There are several disadvantages or injurious consequences resulting from having a soil so filled with water. There can be no circulation of air within the soil. The oxygen of the air is necessary in soils for the direct use of plants. Their roots can not grow and extend into the soil to find water and food constituents except in the presence of oxygen. Seeds can not germinate in the absence of oxygen. Microscopic organisms, which are so essential in properly maintaining the fertility of soils, require oxygen just as higher organisms do. The decay of organic matter in the soil in the presence of oxygen is of such character that its products are usually favorable to plant growth. Nitrates, generally the most important element of plant food, are produced only in the presence of free oxygen.

Disadvantages of wet soils.—The entrance of this essential oxygen of the air into soils is hindered when the pores of the soil are filled with water. Such soils can not be worked until late in the spring, because of being too wet. This delays planting. Wet soils are cold, because the water as well as the soil must be heated, and water warms up much more slowly than soil. The removal of the excess of water by draining permits the heat of the sun to warm the soils earlier to a proper degree for the germination of seeds. Clay soils, when too wet, run together and become plastic and difficultly permeable by water, and the roots of plants. When they dry out by the later heat of summer, they bake and become hard and cloddy, are difficult to till, and are in every way unsuited for cropping. If they be plowed when too wet they become still more puddled, and it requires protracted weathering to bring them into fair condition again. Moreover, these wet soils, both clays and mucks, often contain noxious substances, which interfere with the growth of the most valuable farm-crops. These noxious substances are doubtless mainly organic, but may also be mineral. If the excess of water be removed by drains, these noxious substances are washed out or they are oxidized by the air that finds access to the soil and by the growth of bacteria. Through the weathering processes that go on in drained soils, they become less plastic and less consolidated, so that drainage becomes more perfect and the friable root-bed is deepened. Crops on these drained soils endure drought better than they did before. In the early part of the growing season, while plants are establishing their root systems, the undrained soils are full of water near the surface. Plants can not send their roots into this stagnant water, and hence are shallow rooted. Later, if dry weather comes on, the upper soil dries out, and the roots, being near the surface in this dry upper soil, can not supply sufficient water for the needs of a good crop.

All heavy and mucky soils are better for being thoroughly drained. If

not naturally so, whether tiles should be laid or whether open drains will be effective must be determined by inspection in each particular case.

Depth of drains.—Generally the deeper the tiles are placed the more effective and perfect the drainage, and also the more expensive. Drains should, of course, be laid below the frost line and out of the way of all tillage operations. They should be laid by the use of a level, so that there may be no sags or traps in the drain, and the outlet should be such that the water runs freely from the tile.*

SUBSOIL PLOWING OF DRAINED LANDS.

Heavy clays that require under-drainage are generally benefited by subsoiling; that is, by breaking up the lower soil without bringing any of it to the surface. This facilitates drainage and adds to its good effects. There are two forms of subsoil plows. The one consists essentially of a curved bar of steel which, when drawn through the soil, tears it up after the manner of a very large harrow tooth. The other bears a wedge-like shoe on the lower end of the bar. It breaks up the subsoil more than the preceding, but is of heavier draft. The more usual procedure in subsoiling is to turn the surface with a common stirring plow, as in ordinary plowing, and follow in this furrow with the subsoil plow. This loosens the soil to a depth of 18 to 24 inches from the original surface. The next furrow of the stirring plow covers this loosened subsoil, and the subsoil plow is run in the bottom of the new furrow. Sometimes the subsoil plow is used without first turning the surface. In such cases it is not run so deep and its work is less effective.

The subsoil is commonly wetter than the surface soil. If a heavy clay, and it is stirred when too wet, it will become more puddled, neutralizing the effects of the plowing. Subsoiling should never be done when the subsoil is wet enough to be plastic and to cake on drying. It may require two or three years after putting in the drains for the subsoil to come into proper condition for plowing. The subsoiling should be done in a dry time of year, and then only when an actual examination of the subsoil shows it to be in condition to be worked without puddling or forming clods. When the subsoil has been put in the proper condition by the use of the subsoil plow, it will generally be necessary to repeat the operation only once every fifth or sixth year.

SUBSOIL PLOWING OF LANDS NOT DRAINED.

Recognizing the advantages of a deep, fine-grained seed- and root-bed, one that will absorb and retain a large quantity of water, the use of the subsoil plow has been widely recommended as a means of producing it. Its use for the purpose of deepening the soil reservoir and the feeding ground of the roots of plants is so distinct from that given under the preceding heading, where its object is principally to facilitate drainage, although it accomplishes more than this, that its value in the one case can be no certain criterion as to its value in the other.

Experience seems to justify the following conclusions regarding the subsoiling of dry fields:

1. Light sandy soils are not profitably subsoiled. Deep plowing of these will give the necessary condition for absorbing the rainfall, and for the extension of the root systems of plants.
2. Unless the soil has been settled to firm it and to reestablish capillary connection with the lower soil, yields will frequently be less on subsoiled land than on that surface plowed. Heavy rains will settle the soil and fill it with water so that the effects proper to this preparation may be expected. But until these rains do come, the soil will have had no chance to exert any increased absorbing capacity it may possess, and, being loose and open and disconnected from the lower soil, will dry out more rapidly and completely than a soil not so thoroughly broken up. The subsoiling should be done in such season of the year that rains will intervene before seeding time.
3. If subsoiling be determined upon, it should be in the nature of an experiment to see how it works on the particular soil concerned. If good results follow, the subsoiled area may be extended.
4. In subsoiling dry fields it will often be better to use a plow with a subsoiling attachment, running it a

*Farmers' Bulletin No. 187, U. S. Department of Agriculture, treats quite fully the subject of the drainage of farm lands, giving detailed instructions for performing the work, and, therefore, no special directions for constructing drains will be given here.

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few inches below the bottom of the furrow, gradually attaining the desired depth by plowing deeper year after year. In this way the soil will never be so much disturbed, and treatment for "packing" and "firming" it will be more effective. It will also be less expensive to prepare the soil in this way than to run a regular subsoiler 12 to 18 inches deep in the bottom of the furrows. But it will, of course, take a longer time to secure the deep soil reservoir.

PLOWING.

Plowing is the most usual method of fining the soil for planting; draining and subsoiling, when required, are preliminary preparations. When soil is well drained, either naturally or artificially, plowing is all that is required to bring it into shape. There is more or less difference in character between the upper or surface soil and the subsoil. Farming operations affect the former, and from it plants draw their nourishment in large part. It is a distinct advantage to have this cultivated soil or tith as deep as it can reasonably be made. But in its natural state a comparatively thin layer only of the soil has been perfectly weathered and made in good condition to support plants. Where the soil is a clay or is underlain at a depth of 6 to 8 inches by a heavy clay subsoil, it will generally be found advisable to plow not more than 1 or 2 inches deeper than the soil has been previously plowed. By exposure and weathering the subsoil acquires the character of surface soil. In this way any desired depth of tith may be produced without injury to crops. On open soils the dangers of deep plowing are not so great, but even here deep plowing should be done some time before the crop is put in. The soil will then have time to weather somewhat, and to settle and establish capillary connection with the soil below. This latter point is of importance, and will be considered more fully on a later page.

The sod plow.—There are two distinct styles of moldboard plows. They differ in shape, and hence in their effects upon the soil turned by them. One may be called the sod plow, the share or cutting edge of which is generally longer and makes a more acute angle with the bar or landside than in the case of the other style. The moldboard has a gradual turn, inverting the furrow as a whole, but causing little motion within the furrow slice. Thus the soil is not pulverized very much. Such a plow is quite serviceable in plowing sod; the furrow being placed flat, the grass dies readily and the roots rot rapidly. By the use of the disk and the harrow such rotted sod may be worked up into a fairly good seed-bed. If sod ground be plowed while the grass is in active growth, the sod rots more rapidly and the ground comes into condition sooner than if the plowing be done in a season when the plants are dormant. Raw prairie sod requires a year or more to come into really good tith, even if the breaking be done when the growth of the grass is most vigorous. This applies with most force to grasses having hard tough roots, such as the blue-stem of the Western prairies. Tame grass sod comes into condition sooner.

The stirring plow.—In the other form of plow the moldboard is shorter and has a steep upward curve, so that the soil is not only inverted but is pulverized by the shearing motion within the furrow slice. When a loam or a sandy soil is in proper condition of moisture, no better tool for pulverizing it could be desired than a good plow of this latter form. If heavy clay soil must be plowed when wet, the sod form of plow will probably be preferable, since it disturbs the soil less and will not render it so cloddy. But if naturally hard soils have become dry, they will be broken up more thoroughly by the steeper moldboard. Such soils should be plowed when in the process of drying they have lost their plasticity, but have not yet formed clods. All soils should be handled with discriminating judgment, but heavy clay soils require the greater care to secure the best results from the work put upon them. The experienced farmer readily recognizes the condition each particular type of soil must be in to be put in good tith by plowing, but he does not always realize the advantage of doing the work at the right time.

Means of preventing "plow sole."—With these moldboard plows the smooth bottom of the furrow makes a distinct plane of separation between the soil that has been turned and that below. It is desirable to reestablish connection between these in order that excess of water from rains may readily sink into the ground, and that the

water in the subsoil may rise by capillary action to reach plant roots occupying the upper soil. If this furrow bottom could have a rough or broken surface, capillary connection could be more readily established. In this respect the disk plow should be better, although it does not pulverize the soil so well. It is quite serviceable on hard, gummy soil also. It would appear to be of especial use in humid regions where a hard-pan or plow sole has formed at the depth the ground has been plowed. This hard-pan has been formed in part by the action of the common plow itself. It separates the furrow by cutting, and the sliding of the plow over the flat and plastic furrow bottom puddles it, making a smooth, hard surface at the depth plowed. At successive plowings the plow runs at this depth, increasing the hardness and thickness of the pan. If the furrow slice were broken off instead of being cut off by the wedge-shaped plow, the hard-pan would not so readily form. The disk plow breaks off the furrow slice as described, and it may with profit be used occasionally to destroy this hard-pan by cutting down into it and thus breaking it up. In fact the pan might be prevented from forming by the use of the disk plow every few years, running it quite deep.

A deep seed-bed.—By draining and subsoiling when necessary, and by deep plowing as has been described, a deep and pulverulent seed- and root-bed may be prepared. It is more than might be implied by these terms; it is a reservoir into which water that falls as rain will readily sink and in which a large proportion will be held in the best condition for the use of plants. It is a medium in which will take place the various chemical changes that prepare the mineral food of plants and destroy noxious substances. It is known that the innumerable bacteria that make their home in a mellow, well-aerated soil perform important work in preparing it for the higher plants; but it is probable that their value is not yet fully appreciated.

WHEN GROUND SHOULD BE PLOWED.

For some crops the soil may be plowed immediately before planting and good results will be secured. This is true of corn. Wheat, on the other hand, especially winter wheat, requires a firm soil into which to send its roots, and plowing should not precede seeding by too short an interval. The soil should have time to settle before seeding. Heavy rains settle the soil, but since drier weather prevails in early autumn there is danger that the plowed soil will not thoroughly settle. When wheat or other fall crops are to follow a crop which is harvested in early or middle summer, and the ground is to be plowed for the wheat, the plowing should be done as soon after harvest as the condition of the farm work will permit, and the ground should then be smoothed with a harrow to reduce evaporation of the soil moisture.

Weeds use large quantities of water. Aside from other ill effects they may have, much of their injury to crops in which they grow is due to their appropriating the soil water. Where water is of any agricultural value, weeds should never be allowed to grow. If stubble ground be left to grow up in weeds, it dries out excessively. The early plowing urged above kills weeds and prepares the ground to absorb any rains that come, and the freshly plowed and harrowed soil will not lose water so rapidly as the stubble ground.

If land is to be planted in the spring, late fall plowing has certain advantages. It may be done after the removal of a late-maturing crop. If the subsoil be turned up in the fall, the freezing and thawing and general weathering will improve it. If rough, as left by the plow, the soil will absorb rains and melting snows and will crumble down into good condition and will not be so likely to run together as if smoothed by the harrow. Such fall-plowed ground will generally be in good shape for small grain seeded in the spring. The disk may be used if necessary. If corn is to be grown on fall-plowed land, it should be thoroughly disked and harrowed unless the corn be planted with the lister. In case there be heavy rains before corn-planting time, heavy soils will run together and cake. The disk, run over these as soon as the surface has dried sufficiently, will keep them in condition. In general, the disk should be used if there is considerable interval between plowing and planting. In using the disk, lap half way to level the surface.

LISTING GROUND, AND THE LISTER.

The lister consists essentially of a

right-hand and a left-hand plow joined at the bar. It throws the soil out each way, leaving an open furrow. The corn is drilled in the bottom of this furrow, either by a drill attachment or by a separate drill. The lister has been successfully used in the section of the country just east of the semi-arid region. It is most successful in dry years. In wet years the listed corn suffers on rolling ground from the washing in the furrows, and from water standing in the furrows on level ground.

Corn-plants put out their roots near the surface of the soil, regardless of the depth at which the seed has been planted. The corn is planted in the furrow roots near the top of the soil in the bottom of the furrow. The first cultivation is given with a spike-tooth harrow as soon as weeds start on the tops of the ridges. This rolls a little fine soil down into the furrows. Later tillage works more of the soil into the furrows, until they are finally filled and the ground is level. The root system having been established in the bottom of the listed furrow, the subsequent filling of the furrows places these roots several inches deeper than they would have been had the ground been plowed in the ordinary way and the planting been done on a level surface.

This plan works well in the drier portions of the humid regions. While listed corn stands drought better than that planted on level plowed ground, it may be doubted whether it will do so well in the more humid portions of the country. The washing and the standing of water in the listed rows, already mentioned, may be sufficient to overbalance any advantage derived from its greater resistance to drought.

Since the seed is planted in the bottom of the freshly made furrow, the soil here is not so warm as the surface soil, and listing should not be done until the soil is sufficiently warm. This will be about the usual seeding time for level-planted ground.

CULTIVATION TO RETAIN MOISTURE IN THE SOIL.

If the soil reservoir has been well prepared and rains have filled it with capillary water, tillage should be directed to reducing the loss of water by evaporation to the lowest possible point. The water that passes through the plants themselves is of benefit to the crop; that evaporating directly from the soil is wholly lost. In spite of all that can be done there will be losses from the soil in drying weather, but these may be materially reduced.

A loose soil with large pores has low capillary power and will absorb but little water from a moist soil in contact with it; therefore, a layer of such loose soil covering the moist-soil reservoir will conserve the water in the latter by diminishing direct evaporation from it. It is well established by the experience of farmers as well as by direct experiments that a layer of loose, dry soil 3 or 4 inches deep is effective in preventing the excessive drying of soils. If this mulch be maintained through the season by proper cultivation, it is more beneficial than a straw mulch. In the course of a long, dry period it has been found to conserve the moisture as well as a straw mulch, and there are several disadvantages with the latter. If put on early, the straw mulch keeps the surface soil wet in the spring and early summer. This makes the soil cold, excludes the air, and causes plants to root near the surface. When this surface soil dries out, these roots can not supply water and the crop suffers. The soil mulch and the cultivation to produce it cause the plants to root deeply, the aeration of the soil is improved, and in all respects the effects of the dust mulch are good. To be most effective the surface tillage must be kept up. The soil must be cultivated after each rain of sufficient amount to puddle the surface—that is, cause it to run together and form a crust on drying.

Experience has shown that the rapid and complete drying of the surface which ensues in some portions of the semi-arid region forms a mulch which serves to reduce evaporation from the deeper soil. In some cases it has been claimed to be as effective as that produced by tillage, but it is less certain and should not be relied on. Therefore in dry farming in the West, as well as in farming under humid conditions, tillage to produce and maintain a dust mulch should be the universal practise. In a dry time it will pay to run a small-tooth cultivator through the corn, although it be later in the season than corn is usually cultivated and the plants are so tall that the double cultivator can not be used. If the soil has been kept loose on top, the plants will

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have rooted below the dust mulch and the late culture of the surface will not injure them. It will aid in retaining moisture, will facilitate the aeration of the soil, and increase the activities of desirable micro-organisms.

It is usual to speak of a "dust mulch," but the better mulch has a granular structure and is not composed of dust. In open countries the dust would blow off, to the detriment of the soil, and a dust surface would not absorb the rainfall so readily as that composed of very small lumps of soil.

Tools Used in Cultivation.—The implements employed in cultivation will vary somewhat with the crop and with its stage of growth. Tillage of ground before the crop is up and when the plants are very small, especially listed crops, should be with the spike-tooth harrow with the teeth set at a considerable slant. Weeds are most easily destroyed when they are coming up. The harrow is very useful for this purpose, and at the same time it produces the soil mulch. A distinct advantage in the use of the harrow is the rapidity with which the ground may be gone over. The spike-tooth harrow, or the disk harrow followed by the spike-tooth harrow, should also be used in summer culture intended to conserve moisture for a future crop. When the plants are too large to be cultivated with the harrow, any of the modern double cultivators will do good work in cultivating corn and similar crops; but when equipped with gangs of three to five narrow shovels that throw the soil but little, they are still more efficient for surface cultivation, unless the ground has become weedy from inability to cultivate it because of wet weather. Blade-like shovels that run nearly horizontal and cut off a thin layer of soil are effective unless there be too much trash. These blades can be so adjusted that the soil will pass over them, forming a loose layer, which on drying will protect the moist soil below.

In cultivating the soil as thoroughly and frequently as the best farming requires, the labor will be excessive unless tools be used that enable a man to cover a large area in a day. Plenty of team power should be available on a modern farm, and three or four good horses to one driver are more economical than two when the land is such that large tools can be successfully operated. Farming with one horse to a man is poor economy and will absolutely prevent the good farming necessary to conserve the soil moisture.

The disk harrow and the spike-tooth harrow have already been suggested for certain kinds of work. No better tools need be desired for the work for which they are designed. They are made in sizes for 2 horses and for 4 horses. In using the disk harrow it should be lapped half-way in order to leave a level surface. Disks 14 to 16 inches in diameter do better work than those of greater diameter, but the draft is heavier. Except in special cases, double cultivators, or two-row cultivators, should be used. Single cultivators are useful in cultivating crops that have become too tall for the double cultivator and in small areas, as in truck-farming, but no tool of less capacity than the double cultivator should be generally employed in field work.

(To be continued.)

Roosevelt on Some Agricultural Problems.

EXCERPTS FROM THE PRESIDENT'S MESSAGE.

The only other person whose welfare is as vital to the welfare of the whole country as is the welfare of the wage-worker is the tiller of the soil, the farmer. It is a mere truism to say that no growth of cities, no wealth, no industrial development can atone for any falling off in the character and standing of the farming population. During the last few decades this fact has been recognized with ever-increasing clearness.

There is no longer any failure to realize that farming, at least in certain branches, must become a technical and scientific profession. This means that there must be open to farmers the chance for technical and scientific training, not theoretical merely, but of the most severely practical type. The farmer represents a peculiarly high type of American citizenship, and he must have the same chance to rise and develop as other American citizens have. Moreover, it is exactly as true of the farmer, as it is of the business man and the wage-worker, that the ultimate success of the nation of which he forms a part must be founded not alone on material prosperity, but upon high moral, mental, and physical development. This education of the farmer—

self-educated by preference, but also education from the outside, as with all other men—is peculiarly necessary here in the United States, where the frontier conditions even in the newest States have now nearly vanished, where there must be a substitution of a more intensive system of cultivation for the old wasteful farm management, and where there must be a better business organization among the farmers themselves.

Several factors must cooperate in the improvement of the farmer's condition. He must have the chance to be educated in the widest possible sense—in the sense which keeps ever in view the intimate relationship between the theory of education and the facts of life. In all education we should widen our aims. It is a good thing to produce a certain number of trained scholars and students; but the education superintended by the State must seek rather to produce a hundred good citizens than merely one scholar, and it must be turned now and then from the class book to the study of the great book of nature itself. This is especially true of the farmer, as has been pointed out again and again by all observers most competent to pass practical judgment on the problems of our country life.

All students now realize that education must seek to train the executive powers of young people and to confer more real significance upon the phrase "dignity of labor," and to prepare the pupils so that in addition to each developing in the highest degree his individual capacity for work, they may together help create a right public opinion, and show in many ways social and cooperative spirit. Organization has become necessary in the business world; and it has accomplished much for good in the world of labor. It is no less necessary for farmers. Such a movement as the grange movement is good in itself and is capable of a well-nigh infinite further extension for good so long as it is kept to its own legitimate business. The benefits to be derived by the association of farmers for mutual advantage are partly economic and partly sociological.

AGRICULTURAL EDUCATION.

Moreover, while in the long run voluntary effort will prove more efficacious than government assistance, while the farmers must primarily do most for themselves, yet the Government can also do much. The Department of Agriculture has broken new ground in many directions, and year by year it finds how it can improve its methods and develop fresh usefulness. Its constant effort is to give the governmental assistance in the most effective way, that is, through associations of farmers rather than to or through individual farmers. It is also striving to coordinate its work with the agricultural departments of the several States, and so far as its own work is educational, to coordinate it with the work of other educational authorities.

Agricultural education is necessarily

based upon general education, but our agricultural educational institutions are wisely specializing themselves, making their courses relate to the actual teaching of the agricultural and kindred sciences to young country people or young city people who wish to live in the country.

Great progress has already been made among farmers by the creation of farmers' institutes, of dairy associations, of breeders, associations, horticultural associations, and the like. A striking example of how the Government and the farmers can cooperate is shown in connection with the menace offered to the cotton-growers of the Southern States by the advance of the boll weevil. The department is doing all it can to organize the farmers in the threatened districts, just as it has been doing all it can to organize them in aid of its work to eradicate the

cattle-fever tick in the South. The department can and will cooperate with all such associations, and it must have their help if its own work is to be done in the most efficient style.

IRRIGATION AND FORESTS.

Much is now being done for the States of the Rocky Mountains and Great Plains through the development of the National policy of irrigation and forest preservation; no Government policy for the betterment of our internal conditions has been more fruitful of good than this. The forests of the White Mountains and Southern Appalachian regions should also be preserved; and they can not be unless the people of the States in which they lie, through their Representatives in the Congress, secure vigorous action by the National Government.

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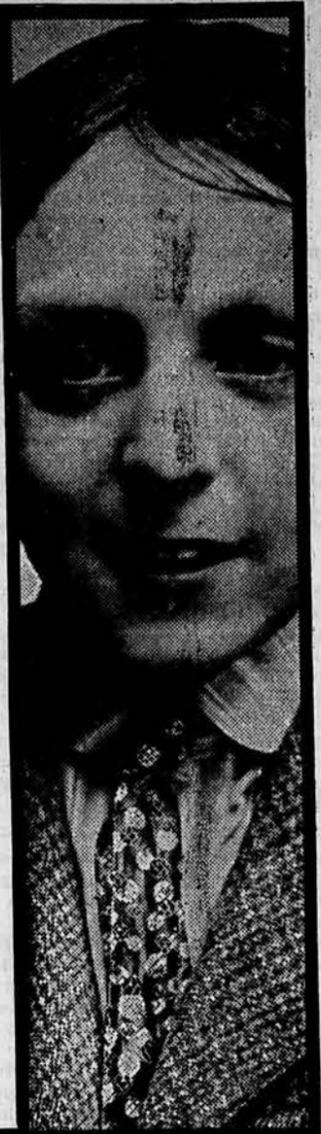
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is also the barber for the whole community, the saddler, the shoemaker, and has also all the clocks and watches under his especial care.

The poultry department, which naturally is in charge of the "Khasy-aeeka," or mistress of the landlord's house, is of considerable importance. Russia is a large exporter of eggs and poultry, England alone taking nearly five million dollars' worth annually. The poultry house is a big institution, for in it the geese, turkeys, ducks, and chickens must pass six or seven weary months of winter. It is heated then day and night with a big Russian stove.

THE PERMANENT FARM SERVANTS.

The permanent staff of laborers and farm servants is larger than might be supposed, considering how much of the agricultural work is done by peasant "artels" coming from the neighboring villages. These farm servants live in rows of huts forming sides of a square near the farmyard. The huts resemble those of the other peasants in their interior arrangements. From a short distance they are decidedly pretty. Their whitewashed walls glitter like ivory in the sun, and in summer the thatched roofs of those that are more than four or five years old are frequently perfect little gardens of ferns and wild flowers. Nearly all of the farm servants are married, and their cottages swarm with children, for whom employment is found as soon as they are able to get about alone.

THE IMPORTANCE OF THE FLAX-CROP.

The estate is thus a little world in itself, and there is an enormous amount of work to be done that could not be contracted for. For example, even if the landlord does not cultivate flax and hemp for sale, a certain quantity will have to be sown for household use, and no crop entails so great an amount of labor. The flaxseed also plays a highly important part in domestic economy. Mention has been made of the casks of oil as part of the cellar stores. This is generally made on the estate. During the two long fasts ordained by the Russian church in each year, nothing of animal origin, not even butter, will be touched by the peasants for weeks together, and linseed oil forms an important item in their daily food. The preparation of the flax, the spinning of which will occupy so many of the winter months, is undertaken by women and girls belonging to the farm laborers' families. The flax is laid out on the lawn and watered occasionally until by this means, and the dew at night, the gummy substance by which the fiber is held together has been somewhat loosened; or a part of it may be steeped in water for a long time, until the same result is obtained. The stalks, which have to be well dried, are afterwards gently beaten on a kind of wooden anvil, with a light oak stick shaped like a rolling-pin; and great is the outcry when now and then a peasant girl is caught spilling the fiber by beating too vigorously, with a view of getting her work more quickly done. The subsequent combing of the flax intended for spinning into the thread with which the finer kinds of lace are made, or for weaving into linen for personal use, is as delicate an operation as dressing the mistress's own hair would be. The spinning and weaving of the more delicate fabrics would most probably be a part of the winter's labors for the ladies of the family themselves, for Russian home-woven linen is a work of art, and much is of a quality that could hardly be bought for money.

Jas. J. Hill on the Elevator Business.

One of the great railroad kings, Jas. J. Hill, of the Great Northern, was before the Interstate Commerce Commission as a witness one day last week. What he said was interesting and much of it important. The inquiry was personally conducted by Commissioners Charles A. Prouty and Franklin K. Lane.

Mr. Hill's answers were given without hesitation and in detail. He told of the tremendous grain traffic on his road, equaling each year twice as much as the grain hauled into Chicago by all roads running into that city. He said that the Great Northern in 1896 hauled 115,000,000 bushels of wheat. In view of the fact that the bulk of the Great Northern's business comes from the farmer, he said it has always been its policy to aid the farmer whenever possible.

"Is it the policy of your road, Mr. Hill, to delay freight for any reason?" was one of the opening questions.

"No, it certainly is not," was the reply. "If the connecting roads would move freight faster we could do a great deal better. In Chicago a few days ago I made inquiries about traffic, and

could not get a single line which would agree to move 200,000 tons of freight to New York before December. The Great Northern can right along handle all business received from the East promptly. The congestion comes from traffic from the West."

ROADS SHOULD CONTROL LOADING.

On the specific subject of grain elevators Mr. Hill testified:

"It is our rule to permit any one to erect elevators at stations of our road on the right of way. We now make our contracts, however, not transferable, as we have found instances where such applications were not made in good faith and afterwards sold at a good figure. When we have found objectionable elevator combines we have sometimes built elevators of our own. In such instances the combines have tried to freeze our man out. We have such an instance at Litchfield, but were able to help our man out. But that, gentlemen," Mr. Hill said, with a smile, "was before the passage of the interstate commerce law."

In regard to the Great Northern's terminal elevators at Duluth, Mr. Hill stated his company did operate them, but that because of the Wisconsin law requiring grain in that State to be inspected by Wisconsin inspectors, those elevators were now leased.

"I think it is a great detriment to business that we can not control the loading of grain," said Mr. Hill. "I think it is the best thing for a railroad to have its own terminal elevators. By our building Duluth terminal elevators we have reduced for the shipping farmers the elevator charge from 1 cent to 1/2 cent a bushel."

HIS IDEA OF HANDLING GRAIN.

"Did you make a charge for cleaning?"

"No, sir; it should be remembered that in cleaning the elevator gets the screenings, which are worth \$5 to \$6 a ton."

Mr. Hill thought the present legal method of handling grain is wrong, but the farmer is too much the victim of the speculator. He said every receiving elevator should devote itself to simply that business; that the operation in grain should be another separate business, and that the business of the grain-mixer should be still another separate business.

"Do you think the farmer is getting what he should for his crop?"

"I don't think he is getting what he should for some classes of grain. For instance, farmers are now raising a lot of durum wheat. There is a good deal of risk in what the foreign demand will be and a market at home for only a limited amount."

Mr. Hill said that elevators are continually treating the farmers unfairly.

SAVED SHIPPERS MILLIONS A YEAR.

Mr. Hill gave an interesting story of how he happened to build a Buffalo terminal elevator, the largest in the world, costing \$1,200,000.

"Along our line and up to Buffalo we were able to keep good track of grain we shipped because it went in our own cars and in ships manned by our own crews and owned by us. But in one single instance there was reported to me a shipload which when weighed at Buffalo was 2,500 bushels short. Soon after that we built an elevator at Buffalo.

"At that time the stock of the Buffalo elevator pool was selling at 600. They charged 1 1/4 cents for unloading and 1/4 of a cent for shoveling. We included in addition, insurance, and charged for everything but half a cent per bushel—a saving to the grain-shippers of a cent a bushel. Where we handled 100,000,000 bushels a year this meant a saving of \$1,000,000 a year. We don't own the elevator now. We told a gentleman who offered us \$300,000 more for the elevator than it cost that he could have it. The elevator charge, however, is still kept down to 1/2 cent per bushel."

"Mr. Hill, do you own any elevator stock, whatever?"

"No, sir, I do not."

FAVORS FEDERAL INSPECTION.

"I want to say that no man in the Great Northern road can own any stock in anything along the line of the road. If he does, he must leave my employ, even if he were my own son."

Mr. Hill said the elevator receipts given to farmers should be negotiable and made as good as bank drafts, and that thus the farmer could get a free market.

"I'd make the country elevator establish relations with the terminals," said Mr. Hill. "I'd have the railroad business one thing and the buying and selling of grain another. And I would

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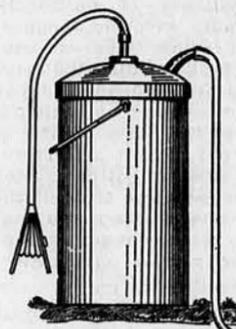
DO YOU KNOW

that the President of the Kansas City Board of Trade admitted in his testimony at the hearing of the Interstate Commerce Commission that they had boycotted The Independent Farmers' Terminal Co.?

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References—The Editor of this paper.



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have under the law every grain elevator a public elevator."

"Don't some people think you charge too much for freight?" asked Judge Koon, representing some of the elevator interests.

"Well, I keep reducing charges," was the answer, "and I don't know as I ever heard of elevator men doing so."

"Do you favor federal inspection of grain?" asked one of the commissioners. "Decidedly I do," replied Mr. Hill.

International Morality and the Japanese Question.

FROM THE PRESIDENT'S MESSAGE.

It is a mistake and it betrays a spirit of foolish cynicism to maintain that all international governmental action is, and must ever be, based upon mere selfishness, and that to advance ethical reasons for such action is always a sign of hypocrisy. This is no more necessarily true of the action of governments than of the action of individuals. It is a sure sign of a base nature always to ascribe base motives for the actions of others.

Unquestionably no nation can afford to disregard proper considerations of self-interest, any more than a private individual can do so. But it is equally true that the average private individual in any really decent community does many actions with reference to other men in which he is guided, not by self-interest, but by public spirit, by regard for the rights of others, by a disinterested purpose to do good to others, and to raise the tone of the community as a whole.

Similarly, a really great nation must often act, and as a matter of fact often does act, toward other nations in a spirit not in the least of mere self-interest, but paying heed chiefly to ethical reasons; and as the centuries go by this disinterestedness in international action, this tendency of the individuals comprising a nation to require that nation to act with justice toward its neighbors, steadily grows and strengthens.

It is neither wise nor right for a nation to disregard its own needs, and it is foolish—and may be wicked—to think that other nations will disregard theirs. But it is wicked for a nation only to regard its own interest, and foolish to believe that such is the sole motive that actuates any other nation. It should be our steady aim to raise the ethical standard of national action just as we strive to raise the ethical standard of individual action.

Not only must we treat all nations fairly, but we must treat with justice and good will all immigrants who come here under the law. Whether they are Catholics or Protestant, Jew or Gentile; whether they come from England or Germany, Russia, Japan or Italy, matters nothing. All we have a right to question is the man's conduct. If he is honest and upright in his dealings with his neighbors and with the state, then he is entitled to respect and good treatment.

Especially do we need to remember our duty to the stranger within our gates. It is the sure mark of a low civilization, a low morality, to abuse or discriminate against or in any way humiliate such stranger who has come here lawfully and who is conducting himself properly. To remember this is incumbent on every American citizen, and it is, of course, peculiarly incumbent on every Government official, whether of the Nation or of the several States.

THE JAPANESE QUESTION.

I am prompted to say this by the attitude of hostility here and there assumed toward the Japanese in this country. This hostility is sporadic and is limited to a very few places. Nevertheless, it is most discreditable to us as a people, and it may be fraught with the gravest consequences to the Nation.

The friendship between the United States and Japan has been continuous since the time, more than half a century ago, when Commodore Perry, by his expedition to Japan, first opened the islands to Western civilization. Since then the growth of Japan has been literally astounding. There is not only nothing to parallel it, but nothing to approach it in the history of civilized mankind. Japan has a glorious and ancient past. Her civilization is older than that of the nations of northern Europe—the nations from whom the people of the United States have chiefly sprung.

But fifty years ago Japan's development was still that of the Middle Ages. During that fifty years the progress of the country in every walk in life has been a marvel to mankind, and she now stands as one of the greatest of civilized nations; great in the arts of war and in the arts of peace; great in mili-

tary, in industrial, in artistic development and achievement. Japanese soldiers and sailors have shown themselves equal in combat to any of whom history makes note. She has produced great generals and mighty admirals; her fighting men, afloat and ashore, show all the heroic courage, the unquestioning, unfaltering loyalty, the splendid indifference to hardship and death, which makes the loyal Romans; and they show also that they possess the highest ideal of patriotism.

Japanese artists of every kind see their products eagerly sought for in all lands.

The industrial and commercial development of Japan has been phenomenal; greater than that of any other country during the same period. At the same time the advance in science and philosophy is no less marked. The admirable management of the Japanese Red Cross during the late war, the efficiency and humanity of the Japanese officials, nurses, and doctors, won the respectful admiration of all acquainted with the facts. Through the Red Cross the Japanese people sent more than \$100,000 to the sufferers of San Francisco, and the gift was accepted with gratitude by our people.

The courtesy of the Japanese, nationally and individually, has become proverbial. To no other country has there been such an increasing number of visitors from this land as to Japan. In return, Japanese have come here in great numbers. They are welcome, socially and intellectually, in all our colleges and institutions of higher learning, in all our professional and social bodies. The Japanese have won in a single generation the right to stand abreast of the foremost and most enlightened people of Europe and America; they have won on their own merits and by their own exertions the right to treatment on a basis of full and frank equality.

The overwhelming mass of our people cherish a lively regard and respect for the people of Japan, and in almost every quarter of the Union the stranger from Japan is treated as he deserves; that is, he is treated as the stranger from any part of civilized Europe is and deserves to be treated. But here and there, a most unworthy feeling has manifested that has been shown in shutting them out from the common schools in San Francisco, and in mutterings against them in one or two other places, because of their efficiency as workers. To shut them out from the public schools is a wicked absurdity, when there are no first-class colleges in the land, including the universities and colleges of California, which do not gladly welcome Japanese students and on which Japanese students do not reflect credit. We have as much to learn from Japan as Japan has to learn from us; and no nation is fit to teach unless it is also willing to learn. Throughout Japan Americans are well treated, and any failure on the part of Americans at home to treat the Japanese with a like courtesy and consideration is by just so much a confession of inferiority in our civilization.

TRADE DEPENDS ON IT.

Our Nation fronts on the Pacific, just as it fronts on the Atlantic. We hope to play a constantly growing part in the great ocean of the Orient. We wish, as we ought to wish, for a great commercial development in our dealings with Asia; and it is out of the question that we should permanently have such development unless we freely and gladly extend to other nations the same measure of justice and good treatment which we expect to receive in return.

It is only a very small body of our citizens that act badly. Where the Federal Government has power it will deal summarily with any such. Where the several States have power I earnestly ask that they also deal wisely and promptly with such conduct, or else this small body of wrongdoers may bring shame upon the great mass of their innocent and right-thinking fellows—that is, upon our Nation as a whole.

Good manners should be an international no less than an individual attribute. I ask fair treatment for the Japanese as I would ask fair treatment for Germans or Englishmen, Frenchmen, Russians, or Italians. I ask if as due to humanity and civilization, I ask it as due to ourselves because we must act uprightly toward all men.

A REMEDY SUGGESTED.

I recommend to the Congress that an act be past specifically providing for the naturalization of Japanese who come here intending to become American citizens. One of the great embarrassments attending the performance of our international obligations is the fact that the statutes of the

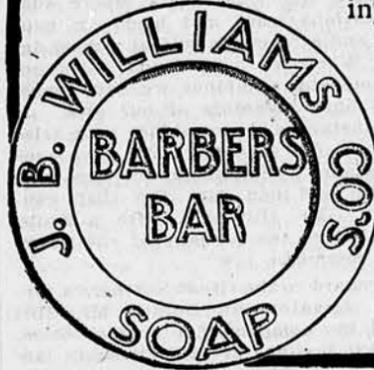
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United States are entirely inadequate. They fall to give to the National Government sufficiently ample power, through United States courts and by the use of the army and navy, to protect aliens in the rights secured to them under solemn treaties which are the law of the land.

I, therefore, earnestly recommend that the criminal and civil statutes of the United States be so amended and added to as to enable the President, acting for the United States Government, which is responsible in our international relations, to enforce the rights of aliens under treaties. Even as the law now is something can be done by the Federal Government toward this end, and in the matter now before me affecting the Japanese, everything that it is my power to do will be done, and all of the forces, military and civil, of the United States which I may lawfully employ will be so employed.

There should, however, be no particle of doubt as to the power of the National Government completely to perform and enforce its own obligations to other nations. The mob of a single city may at any time perform acts of lawless violence against some class of foreigners which would plunge us into war. That city by itself would be powerless to make defense against the foreign power thus assaulted, and if independent of this Government it would never venture to perform or permit the performance of the acts complained of. The entire power and the whole duty to protect the offending city or the offending community lies in the hands of the United States Government.

It is unthinkable that we should continue a policy under which a given locality may be allowed to commit a crime against a friendly nation, and the United States Government limited, not to preventing the commission of the crime, but, in the last resort, to defending the people who have committed it against the consequences of their own wrongdoing.

Exports of Meat and Dairy Products.

More than 250 million dollars' worth of meat and dairy products will have passed out of the United States into the markets of other parts of the world in the year ending with the present month. This enormous total of 250 million dollars' worth of meat and dairy products is made up of a little over 200 million dollars' worth of meats, 35 million dollars' worth of cattle, and about 10 million dollars' worth of butter, cheese, and milk. The ten months' record already announced by the Bureau of Statistics of the Department of Commerce and Labor shows exportations of meat and meat products to the value of 172 million dollars, against 147 millions in the corresponding period of last year, a gain of 25 million dollars in the ten months ending with October, 1906, over the corresponding months of 1905, and a gain of about 40 millions over those of the corresponding months of 1904. The live cattle exported in the ten months ending with October, 1906, amounted to 32½ million dollars in value, and the dairy products exported to about 8 million dollars.

No feature of the export trade in agricultural products has shown a more steady and rapid growth than that of meat and dairy products. The total value of meat and dairy products exported in the fiscal year 1896 was 132 million dollars, and in the fiscal year 1906 was 211 millions, an increase of about 60 per cent during the decade; while the figures for the calendar year 1906 seem likely to be about the same as those for the fiscal year, basing the estimate upon the recorded figures of the ten months ending with October.

This increase of 60 per cent in the exportation of meat and dairy products during the decade is the more interesting and remarkable in view of the fact that the exportation of other forms of food has shown but little increase during that period. The principal forms of foodstuffs exported from the United States are breadstuffs and meats. Exports of meat, including dairy products, as above indicated, have shown a steady upward movement during the past ten years and increased 60 per cent in value since 1896. Breadstuffs, on the contrary, show a decline, the total value of breadstuffs exported in 1897 having been 198 million dollars; in 1898, 334 millions; in 1899, 274 millions; in 1900, 263 millions, and in 1901, 276 millions, since which time it has steadily declined until the total for the fiscal year 1906 was but 186 millions, and for the calendar year 1906 will differ little from that of the fiscal year.

This gain in exportation of meats and loss in exportation of breadstuffs seem to be due, in part, to the disposition of the American farmer to transform his corn into meat before sending it

abroad. The total quantity of corn exported, as shown by the figures of the Bureau of Statistics of the Department of Commerce and Labor, was, in 1897, 177 million bushels; in 1898, 209 millions; in 1900, 209 millions; while from that date the total steadily declined, having been below 100 million bushels in each fiscal year until 1906, when the total was 117 millions, and in the calendar year seems likely to be but about 100 million bushels.

This reduction in the exports of corn since 1897 seems to be due to a disposition on the part of the producers to turn this large and valuable crop into meats before exporting. The corn crop of 1901, 1902, 1903, 1904, and 1905 averaged larger than that of the years 1897 to 1901, when the exports were larger than those of more recent years. The prices at which it might be exported have been much higher in recent years than formerly, the average export price per bushel in 1906 being 52.6 cents per bushel, while the average export price in 1897 was 31 cents per bushel; in 1898, 36 cents; in 1899, 39 cents; in 1900, 41 cents; in 1901, 46 cents. Thus the average price per bushel in the five years of high exportation was but one-half that of the year 1906, when exports of corn were far below those of the years 1897-1901. The falling off in exports of corn can not therefore be looked upon as a reduction in foreign demand, since the increased price which foreign buyers are now willing to pay indicates that the popularity of American corn in foreign markets has not abated.

The cause of the reduction in exportation must therefore be looked for at home rather than in foreign demand, and this cause at home seems to lie in the disposition to transform the corn into meat before sending it abroad. This theory is supported by the fact that the meat exportations have constantly grown during the time in which the corn exportations have fallen off. The fact that the exportation of meat and dairy products has increased from 133 million dollars in 1896 to 211 millions in 1906, although the consuming population at home has greatly increased meantime, and that the corn crop available for exportation also greatly increased, seems to justify the conclusion that the corn is being exported in the form of meats rather than in its natural state. In that period, 1896-1906, the number of food animals in the United States has, according to the figures of the Department of Agriculture, increased about 31 per cent, while the total value of the three crops of food animals—swine, sheep, and cattle—has grown from 1,124 million dollars to 1,829 millions, an increase of about 63 per cent.

The trend of the export trade of the United States with reference to the great cereal products, which have in the past formed so large a share of the exportation, seems to suggest a steady reduction in wheat exports in whatever form, and the transformation of the corn crop into the form of meats before exportation. The percentage of the corn crop exported in the form of corn and cornmeal has never been large, the highest figure being 11 per cent in 1898 and a little over 10 per cent in 1900, while in 1906 the share of the domestic crop of 1905 exported was but 4.43 per cent.

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Good Land for Sale.

Look for the card of I. B. Case & Co., of Wichita, Kans., which starts with this issue of THE KANSAS FARMER on page 1344. A number of their specialties, every one of them bargains, will be advertised by them from week to week during the next three months. They have a large number of fine farms and ranches for sale in Kansas, Texas, and throughout the Southwest and West, many of them worth twice the price asked, if bought soon.

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A BOOK FOR EVERYBODY.

The Kansas Farmer has just bought a number of The Busy Man's Friend for its subscribers. This is a book of 250 pages of things that every one should know. It is a compendium of Legal and Business Forms. A Fund of Practical Information for Every-day Life. It contains the Busy Man's Code; The Hows of Business; Points of Law and Legal Forms; Digest of Laws; Practical Information for Busy Men; The Busy Man's Digest of Facts; Computations at Sight. The book is illustrated and bound in cloth. Any old subscriber who will send us \$1 for two new subscriptions will receive this book, postpaid, as a present. This offer is good as long as the books last. Order early and get "The Busy Man's Friend" absolutely free.

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Home Departments

CONDUCTED BY RUTH COWGILL.

The Little Armchair.

Nobody sits in the little armchair;
It stands in a corner dim;
But a white-haired mother gazing
there,
And yearningly thinking of him,
Sees through the dusk of long ago
The bloom of the boy's sweet face,
As he rocks so merrily to and fro,
With a laugh that cheers the place.

They were wonderful days, those dear,
Sweet days,
When a child with sunny hair,
Was here to scold, to kiss, and to
praise,
At her knees in the little chair.
She lost him back in the busy years,
When the great world caught the
man,
And he strode away past hopes and
fears
To his place in the battle's van.

But now and then in a wistful dream,
Like a picture out of date,
She sees a head with a golden gleam
Bent o'er a pencil and slate.
And she lives again the happy day,
The day of her young life's spring,
When the small armchair stood just in
the way,
The center of everything.

—Texas Farmer.

Preparation.

The Christmas spirit is already in the air. The earth itself seems almost to move a little faster to hasten the glad day. Each one is thinking of some other one's happiness. Almost every one you meet looks like he was the possessor of a happy secret. All the spare moments are employed to make pretty and useful gifts for friends and loved ones and to plan for the coming of the joyous time. It is important that in our preparation we keep in our hearts the true Christmas spirit—that of "peace and good will toward men." If we do this, we will have due consideration for all with whom we come in contact. We will think of the tired clerks behind the counter and do our Christmas shopping early to help mitigate the rush of the last few days. We will remember the expressmen and postmen and send away our packages several days before the usual time needed for them to reach their destination. This may be done with due consideration for the ones to whom they are sent, by writing on the outside, "Not to be opened until December 25." It is better also to have them too early than too late, as a belated present loses much of its joy. If we would keep the true Christmas spirit, we will not go beyond the limit of strength and purse. It is better to attempt less than to unfit ourselves, and consequently others, for the true enjoyment of the day. If we have the true Christmas spirit, our gifts will carry with them something of ourselves—our loving thought—with no suggestion that they are pay-back gifts, or that they in any way parade a show of money value. They will show that you have bestowed upon them time or some thought in considering the tastes, circumstances, and needs of the recipient. If we have the true Christmas spirit, we will not forget those who have few to remember them—the poor, the lonely, the aged, and the shut-in. These are the ones to whom Christ is especially near.

The way in which a gift is presented has much to do with the pleasure afforded. If it is simply bought and sent or given in common wrapping paper, it shows signs of evident haste and lack of thought. There are many ways of making the outside attractive. To wrap the gift in white tissue paper and tie with red ribbon, tucking a little bunch of holly under the ribbon, is one way which is quite common. Red crepe paper tied with white ribbon, or tissue or other paper in any of the delicate shades, tied with ribbon in harmonizing colors, may be used with pleasing effect. A round piece of paper cut from plain, unruled writing paper, with the name of the one for whom it is intended written on it, and under the name, Christmas, 1906, may be pasted over the ribbon at one end of the package for a seal, and it also adds to its attractiveness.

Packages for children are made more pleasing if wrapped in white tissue paper and sealed with pictures of Santa Claus, holly, toys, Christmas stocking, etc. These pictures can be purchased at book stores or may be cut from advertisements of Christmas goods in papers and magazines if looked for in time. If you are sending a box, a pretty idea is to lay a sheet of white cotton over the gifts after they are packed in the box, and place holly, mis-

tletoe, and tinsel on the cotton, making a happy introduction to mysterious packages beneath. A Christmas thought in original rhyme, suitable quotation, or any greeting written on a card sent with the gifts carries with it much to make glad the heart of the recipient.

Sweet Lavender.

There is no daintier odor for one's personal belongings than the indescribable scent of lavender, and bunches of this fragrant herb are most acceptable when put up in attractive ways.

Many women who have beds of lavender make considerably more than their pin money by the sale of the dried stalk, and those who are ingenious as well as practical fashion the daintiest bags and sachets as receptacles for the sweet-smelling herb.

Lavender sachets of simple or elaborate material on which are embroidered a few sprigs with the words "Sweet Lavender" are used for scenting bureau drawers and linen closets, while the tiny muslin bags tied with baby ribbon and filled with lavender are frequently worn around the neck.

More elaborate are bags twice as long as they are wide that have the front of fine brown linen with lavender stalks worked in green and mauve silks, and apparently thrown across and secured by a pearl-headed pin, fixed by a stitch or two, the back made of silk the same shade as the green stalk. The neck is lined with green, and green and lavender colored ribbon tie it round. The size varies according to fancy and quantity.

A novel sachet bag takes the form of a grocer's paper bag, tapering at the end, made of satin or silk over a muslin foundation, bound with ribbon and finished off with the same, wound loosely round. The muslin bag of lavender is pushed tightly in and the top closed up. The top may be cut in two points, and either turned back of turned inward. The long-shaped envelopes of fine linen, with the flap cut and curved toward the center and buttonholed deeply with plain or shaded silk, look well as cases for the lavender bags. They vary from six to eight inches in length and nine inches in width. This includes the flap, which should be deep. Some appropriate little design must be worked above the buttonhole edge in the wide parts of the flap. A fancy button and loop closes it.

Long, very narrow cases, a quarter of a yard long, to hold stalks with the heads on, are popular. Half of the stalks go one way and half another, so that the heads are at each end. The stalks have a sweetness of their own, and are especially nice for putting with linen.

A lavender fan is a dainty article that is made of stalks of lavender and yards and yards of baby ribbon. The blue blossoms are first folded down upon the stems, and the ribbon is woven closely and firmly between the stems. This makes a firm, smooth handle, tapering toward the fan part.

The stems are pulled out into a fan shape and trimmed with scissors, making a rounded edge. The baby ribbon is then woven in and out between the stems, beginning about two inches above the handle, and at the top is a large rosette of loops of the ribbon.—N. Y. Mail.

The Mighty Hairpin.

The wife of a Kansas farmer, so the story goes, got tired of asking him to fix some things about the house that needed fixing, and one day after he had come home from town she told him she had done the work herself.

"And you know," she said, "the drawer that was locked for over a month, and which you said couldn't be opened except by a locksmith? Well," triumphantly, "I opened it!"

"Well, well! How in the world did you do it?"

"With a hairpin. And the oven door," she continued, "has been slipping around on one hinge for ever so long just because you were too lazy to fix it; but it's all right now."

"Well, I'm glad you had it fixed."

"Had it fixed! I fixed it myself—

with a hairpin. And then that crayon portrait of mother, that stood in the corner for almost six solid weeks, because you never would bring me any picture hooks—I got it up with a hook I made myself—out of a hairpin."

"Well, well," was all he could say. "And there's Willie. You've been coaxing him and bribing him for over a year, trying to break him of biting his nails, and I broke him in a week." "With a hairpin?" he muttered, meekly.

"No!" she snapped. "Don't be a goose! With a hair brush!"—Kansas City Journal.

Virtues of the Onion.

The onion is rapidly coming more into favor on the tables of all classes of people as its many virtues are becoming known. "It is undoubtedly the earth's best product," said a caterer the other day. "It is a medicine, it is a food, and it is a narcotic."

"I used to be troubled with insomnia. My doctor said: 'Eat a raw onion with a slice of bread every night before retiring.' I did so. I peeled the onion, I put salt on it and devoured it with delight, for it was good. I never had insomnia thereafter. Undoubtedly a raw onion taken each night will cure the most obstinate and long-standing cases of this disorder."

"Onions as a food are most nutritious. The lentil comes first of all in this respect, then peas, and then the onion."

"As a seasoning the onion is as universal and as necessary almost as salt. Soups, sauces, ragouts, hardly a dish of the unsweetened sort would be palatable but for the humble onion."

"If the onion cost about a dollar the world would appreciate it; poems would be written in its praise. Because it costs less than a cent its virtues remain unsung."

Onion Cure for Pneumonia.

This remedy, which is claimed to be infallible in pneumonia, was formulated many years ago by a well-known physician, who never lost a patient by this scourge: Take six or ten onions, according to size, and chop fine. Put in a large frying pan over a hot fire, adding about the same quantity of rye meal and vinegar to form a stiff paste. Stir thoroughly, and simmer five or ten minutes. Put into a cotton bag large enough to cover the lungs, and apply to the chest just as hot as the patient can bear it. In about ten minutes change the poultice, and thus continue reheating and applying, and in a few hours the patient will be out of danger. And just here a word of caution. In applying this, or any other hot poultice, care must be exercised not to let the patient get chilled during the changing process. Have the hot one all ready to go on before the cooling one is removed, and make the exchanges so swiftly and deftly that there is not a moment's exposure of the body surface, which becomes exceedingly sensitive to a chill.—Health.

Sensible Don'ts.

Don't sit facing a strong light.
Don't stoop or bend over while writing or reading.

Don't go too long without food. Hunger gives a strained look to the face.

Don't worry; but, if worry you must, keep the forehead smooth—don't wrinkle it.

Don't wear tight shoes. In time they bring a permanent agonized expression that is not beautiful to behold in even a young face.

Don't neglect ten minutes' rest during the day if you can manage it, with the feet raised. It gives the whole body a great sense of repose, and works wonders in smoothing out the lines of the face.

To lose the soul is to lose out of one's being the pure affections and the love of truth and right. It is to lose the love of goodness and pious trust and the heavenly dower of immortal hope. . . . He that hath lost his virtuous purposes, holy aspirations, devout hopes, whose soul has abdicated its high seat and becomes subject to the world, like the sapless and verdureless tree, is already struck with death.—Ephraim Peabody.

Books have been printed on oyster shells, bones, flat stones, and birch bark; and manuscripts written on bark, ivory, leather, lead, iron, copper, and wood. Still, modern editors kick when they don't get theirs typewritten.

Pat—Phot's th' mainin av th' wurrud "paronymous," Moike?
Moike—Havin' th' same sound but diffrent in spellin' an' mainin', Pat.

Not all smokers are criminals; but show us a criminal who does not smoke.

Hope is grief's best music.

Avoid alum and alum phosphate baking powders. The label law requires that all the ingredients be named on the labels. Look out for the alum compounds.

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The Young Folks

Young Women's Christian Association.
Any Young Woman who is planning to come to Topeka, will find peculiar advantages at the rooms of the Young Women's Christian Association, 623 Jackson Street. Rest rooms, reading room and lunch room are at the disposal of all women at any time. A boarding house directory is kept at the rooms, and also an employment bureau, free of charge. On each Sunday afternoon, at 4:15, a gospel meeting held to which all women are invited. The first week of October is the time set for the opening of the club work, and the classes in Bible Study, in English, Parliamentary Law, Sewing, Water Color and Travel. The Gymnasium also opens then, with classes in Physical Training under a competent instructor. The printed announcements will be mailed on application to the General Secretary. A cordial invitation is extended to out-of-town women, especially to make use of the rooms.

A Little Child.

A simple hearted child was he
And he was nothing more.
In summer days like you and me
He played about the door,
Or gathered, where the father toiled,
The shavings from the floor.

Sometimes he lay upon the grass,
The same as you and I,
And saw the hawks above him pass,
Like specks against the sky—
Or peering through the gate he
The stranger passing by.

A simple child, and yet I think
The bird-folk must have known—
The lark and thrush and bobolink,
And claimed him as their own;
They gathered 'round him fearlessly
When he was all alone.

The lark, the linnet, and the dove,
The chaffinch and the wren—
They must have felt his boundless love
And given their worship then.
They must have known and glorified
The Child who died for men.

And when the sun at break of day
Crept in upon his hair,
I think it must have left a ray
Of unseen glory there—
A kiss upon that little brow
For the thorns that it must wear.
—Albert Bigelow Paine.

"Way Out West."

RUTH COWGILL.

THE MISSIONS OF CALIFORNIA.

The old Spanish missions of California are famous. Every one who comes here wants to see one of them, and they are well worth seeing. It is true, Californians ignore them, or value them only as one of the attractions to get people out here. But Californians are matter-of-fact, and care little for sen-

the old missions which are full of human interest to those who have time for such luxuries as thinking and dreaming. Old and weather-beaten, they stand here amid the rushing and the money-getting as mute and pathetic reminders of somebody's heroism, somebody's faith, and somebody's sense of human brotherhood.

For when those Spanish fathers came, this was indeed a desert and a wilderness. Only Indians lived here, roaming half-naked over the sandy, sage-grown plains and mountains. It had not the attractiveness which irrigation has lent it, of trees and bloom perennially. To these devoted fathers it had only the romance of the unknown, the charm of peril, the promise of privation and hardship. But there were men here, men whose souls might be saved from eternal loss. They were red men, to be sure, unlettered, savage, cruel. Yet they were little brothers to the older, whiter, wiser race. And it must have been some sense of this, only dimly felt, perhaps, which led those Catholics across the seas from Spain.

I have seen four or five of these century-old buildings. They are made of plaster in a style of architecture peculiarly their own, which has been imitated again and again here in public buildings, hotels, and residences. Many things have been named from them also, so that we have mission stores of every kind, mission inns, mission furniture, and mission avenues. Some of the mission buildings are very small and simple. Two or three of them are larger and picturesque. The one near Pasadena, San Gabriel, is one of the especially interesting ones. It has five old bells, all but one of which remain in the quaint little arches made for them. On the outside are some stone steps, worn into hollows, cracked and crumbling with age. We ascended them, thinking of the first who had put their feet there, the father, perhaps, and devout Indians, dimly wondering what all this new and ceremonious religion meant, yet somewhat conscious in their simple souls of the truth and beauty that lies at the heart of every, even the most imperfect, interpretation of the Christian religion. Now the only guardian of these deserted stairs is a malleous little lizard, striking out an angry tongue at all intruders.

We went down into the church, walked upon the plaster floor, sat in the hard-backed seats, looked at the large plaster baptismal font which the Indians had made, wondered at the huge oak timbers in the ceiling, brought from distant canons in the mountains by Indians, who carried them on their fifty shoulders, never suffering one of them to be dropped to the ground, but shifting them from one set of carriers to another as they grew weary. We studied the oil paintings of the different saints and dreamed before the gaudy altar brought from Spain so long ago. Then we went out to the graveyard, neglected and overgrown with weeds, and so drew away from the historic spot, and out of the spell of the cool, dim past, into the glow and the heat and the clang and rattle of the present. And despite the charm of those old dead memories, we felt that it was good to be alive now, to be a part of the sunlit vital present, clangorous and noisy though it is. For life is sweet, and to-day is happy, and the present is better than the past.

A Hunter's Narrow Escape.

One evening while I was sojourning in Wyoming a couple of my young friends went out into a quaking asp thicket after grouse. One of them was armed with a forty-four Winchester, the other with a shotgun.

About half a mile from the ranch they entered the thicket, where they knew the grouse were plentiful. They advanced cautiously, parting the bushes, expecting every minute to flush a covey into the scattering trees, when they would have a good chance at them.

They approached a large boulder, which was about the centre of the thicket, when young Stokesberry, who carried the Winchester and was in front, discovered two or three cub bears playing around the boulder. Without hesitation two hasty shots



Bells of San Gabriel Mission.

timent and history. For California is new. It talks of itself only in the present and future tenses. It speaks of what it was two years ago, or even five, and begs you to reckon its future possibilities by its phenomenal present. Twenty years ago there was a California, but it went under in the National financial panic of that date. It is not considered polite to speak of that time to present-day enthusiasts. Fifty years ago—before Kansas was born—there was a California. Men came here from all the world. They were the "forty-niners," whose stories are full of adventure and fascinating to the ordinary American. Yet the Californian cares little about them. California lives in the present; she has no pride in her past and little interest. Little wonder, therefore, that she forgets her oldest past, that only tourists visit her missions and talk of what happened over a century ago. Tourists will plan together to make a little trip out to one of these old buildings, while a resident will take a little spin out to see some lots. That illustrates very well the newness of California's spirit.

But I started out to tell you about



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C. F. Mingenback, Sec., McPherson, Kansas

brought down two of them and a third shot crippled the other, which raised a terrible yell.

Then out from behind the bowlder came something like a whirlwind—the mother bear—a monster silver tip, breaking the fallen timber and tearing the brush up by the roots. Stokesberry went up a sapling to the top of the bowlder, the bear with a mighty roar after him. The boy with the shotgun jammed it against her side and pulled the trigger, and then took to his heels through the brush.

The shot did not stop the progress of the she bear. It only brought forth another roar.

She kept on after Stokesberry, who had reached the top of the rock, and began to pump 44 bullets into her as fast as he could. But the ammunition was too small and did not seem to do much harm. It only enraged the huge animal.

The rock was not tall enough to protect Stokesberry, so he ran down the opposite side and attempted to make his escape by flight, and probably would have done so, but the fallen timber was a great tangle and the brush thick. He hung his foot and fell. The bear was upon him before he could rise. Then the bloody tussle began. With one stroke of her paw the bear broke two of his ribs, and grabbed him by the thigh with her mouth.

But Stokesberry had held on to his gun. There was only one cartridge in it, and that was in the magazine. From some cause the bear let loose of his thigh and grabbed him by the left arm, just above the elbow. Stokesberry, with his right hand and the breech of the gun on the ground, managed to spring the lever and threw the shell into the barrel, and worked the gun so that he got the muzzle into the bear's mouth and pulled the trigger. It blew the top of the bear's head off, and she fell dead across the body of the young man.

In the meantime the boy had made all possible speed for the ranch, and with two other men, well armed, came back as quickly as they could. They found the bear and the man as I have described, and thought both were dead.

But after pulling the big carcass off of Stokesberry, they found he was still alive. They hastened to the ranch, got a wagon, dispatched a messenger twelve miles to Carbon for a doctor, and used all the remedies they could, which restored him to consciousness before the doctor arrived. He was terribly lacerated and bleeding profusely, and his case looked hopeless. But he had nerve, and in a couple of months he was able to walk about. He had but little use of his left arm.

His friends killed the other wounded cub and brought the four bears to the ranch. The old one tipped the scales at eight hundred pounds. I afterwards bought the hide, but the shotgun, loaded with No. 6 shot, had made a hole about six inches square behind the left shoulder. None of the shot went any further than to the ribs.—Denver Post.

The Little Ones

A Little Girl.

There was a little girl,
And she had a little curl
Right in the middle of her forehead.
When she was good
She was very, very good,
And when she was bad she was horrid.

One day she went up stairs,
When her parents, unawares,
In the kitchen were occupied with meals,
And she stood on her head
In her little trundle-bed,
And then began hooraying with her heels.

Her mother heard the noise,
And she thought it was the boys
A-playing at a combat in the attic;
But when she climbed the stair
And found Jemima there,
She took and she did spank her most emphatic.

—Henry Wadsworth Longfellow.

A True Story About a Dog.

RUTH COWGILL.

I want to tell the little boys and girls about a dog that I saw. It was away out here in California by the sea. This dog was a curly brown spaniel, very pretty, with gentle, soft, brown eyes. One morning early some little boys went down on the seashore and there was the little dog, barking and trembling, acting very queerly, as if he were frightened almost to death. They went closer to find out what was the matter, and there on the sand lay a big

white bull-dog dead, shot through the head. And the little brown dog was taking care of it. He would lie down close beside it, unless somebody came near, and then he would bark. After a while he began to dig in the sand, until he made a little hollow place, and then he tried to push the dead dog into it and cover it. He wanted to bury it, you see. After a while, when people came down, he looked at them with his brown, gentle eyes and then tried to dig in the sand again. He was asking them to help him, and I wonder if he did not wish he could speak. All day long he stayed there keeping guard, and the last thing before dark I saw him still there.

That is the first part of the story. The last is not so sad.

Two or three days after that I went down on the sand, and a brown, curly dog came to me trying to make friends with me.

"Hello, doggie," I said, "you are not so sad to-day as when I saw you last." He wagged his tail and jumped around to show me how happy he was. I sat down on the sand and still he hung about. Presently he went off and began looking for something in the sand, and at last brought a piece of the shell of a nut and laid it beside me, looking first into my face, then down at it. He wished he could talk again, I think. But I understood him. What he really said was, "Please play with me. Throw the shell and see what I will do."

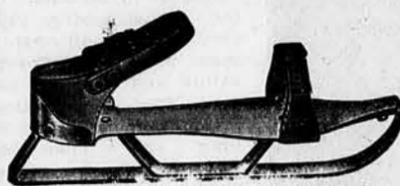
So I threw it, and sure enough, he bounded away to get it, and brought it back, laughing in the way dogs do laugh, which is by wagging their tails, you know.

I threw it again and again, and every time he brought it back. But at last he lost it. He went sniffing around and digging in the sand till I told him he would get through to China if he went much deeper. But he could not find it at all. So at last he brought in a big peach-seed, and we played with that. Sometimes he would pretend he could not find it, when he knew all the time where it was. And sometimes I would pretend to be asleep when he came, and he would stand patiently waiting till I should awake.

At last it was time for me to go home, so I got up and walked along

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and he trotted beside me, very happy. When I was home I said: "Now, doggie, I guess you'll have to run along home. Good night. Go home, little dog," and he turned and trotted away contentedly. Don't you think he was a smart little dog?

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.

Excelsior Club, Potwin, Kansas, (1902).
 Women's Literary Club, Osborne, Osborne County, (1902).
 Women's Club, Logan, Phillips County (1902).
 Domestic Science Club, Osage, Osage County (1888).
 Ladies' Social Society No. 1, Minneapolis, Ottawa County (1888).
 Chautau Club, Highland Park, Shawnee County (1902).
 Cultus Club, Phillipsburg, Phillips County (1902).
 Literateur Club, Ford, Ford County (1902).
 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 Farmer's Institute, Marysville, Marshall County (1902).
 Women's Country Club, Anthony, Harper County.
 Richardson Embroidery Club, Madison, Greenwood County (1902).
 Frontis Reading Club, Cawker City, Mitchell County (1902).
 Cosmos Club, Russell, Kansas.
 The Sunflower Club, Perry, Jefferson County (1902).
 Chaldean Club, Sterling, Rice County (1904).
 Jewell Reading Club, Osage County.
 The Mutual Helpers, Madison, Kansas (1902).
 West Side Study Club, Delphos (1902).
 Domestic Science Club, Berryton, Shawnee County (1902).
 Mutual Improvement Club, Vermillion, Marshall County (1902).
 Centralia Reading Circle, Nemaha County.
 (All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.)

The New England Woman's Club, of which Mrs. Julia Ward Howe has been the president since 1875, and which was founded by Miss Caroline Severance in 1848, has a record that few clubs in the country may ever hope to equal, but it can always be an inspiration. One of the first things it did was to found a horticultural school for women and by its efforts passed the first school suffrage law of the country, a law which permitted Boston women to be members of the school board. Two members of the club held the office of school supervisor for many years. It was through its influence that the New England hospital for women and children was established. It joined in the founding of a cooperative building association, and provided scholarships in Boston and other universities. It helped in the founding of the Boston kindergartens, and used its influence to promote the higher education of women, the result of circulars sent by the club being the founding of the girls' Latin school. It was the first to agitate the subject of police matrons in large cities, and placed women on the boards of public institutions and homes of detention for women. Besides the work of public interest which it accomplished, this club had classes not only in languages, but in political economy and current topics. All sorts of questions of public interest were discussed in the club, lectures by experts being given on the subjects. There seems to be some doubt as to which is the older club, Sorosis, of New York, or the New England Club, a matter of a few weeks or days being the only difference. Now at the beginning of the club season, it is interesting to recall what one club in the country has been able to accomplish.—Selected.

Program.

- Roll-call—Items of interest.
- I. What shall our children read?
- II. Mother's first duty to herself.
- III. Reading—"The Children's Hour."
- I. This is a subject of great importance to the parents. The taste for reading is formed largely in youth, if it is formed at all, and it is important that the child be directed in his choice of literature. Parents, therefore, should give this subject careful consideration and thought to be able to assist the children.
- II. That the mother owes a duty to herself is undeniable, and the selfishness that causes her to look to her own welfare—that she may retain her self-respect and enable her thereby to promote the welfare of her family—is quite pardonable. There are several phases of the question which may be profitably discussed.
- III. The reading of this beautiful poem by H. W. Longfellow will add to the enjoyment of the meeting.

Special Rates for Farmers' Week.
 Secretary Coburn, of the State Board of Agriculture, has received notice that application for reduced railroad rates for those attending the annual

meeting of the Board of Agriculture in Topeka during the second week in January has been granted.

These rates, from all points in Kansas, also St. Joseph and Kansas City, Mo., will be available to everybody, including visitors to the Kansas Improved Stock Breeders' Association, the Kansas Swine Breeders' Association, and the Kansas Veterinary Medical Association, holding their annual meetings in Topeka the same week.

The rate will be one fare plus fifty cents for the round trip (except where a fare and a third makes less), and tickets will be sold Saturday, January 5, to Saturday, January 12, and be good for return up to and including Monday, January 14.

The program of the Board of Agriculture is completed, and a large attendance at the meetings is expected. They begin Wednesday night, January 9, and will close with the session of Friday night, January 11. The Agricultural Board meeting and that of the Improved Stock Breeders will be held in the State Capitol Building. The specific dates for the meetings are:

The Kansas State Board of Agriculture, January 9-12; the Kansas Improved Stock Breeders' Association, January 7-9; the Kansas Swine Breeders' Association, January 8; and the Kansas State Veterinary Medical Association, January 8-9.

A Homemade Cave.

The Anthony Republican, whose editor is an exceedingly practical as well as energetic and broad-minded man, gives the following account of experience in building a cement cave:

"Every farmer appreciates the value of a cement cave and would have one but for the cost. Where a timber roof is put on such a cave is temporary, and the expense of falsework for a cement arch is often prohibitive.

"In an attempt to find the cheapest and best way of making a cement cave, the writer built one more than a year ago. He has said nothing about it until now, because he wanted to see how it would stand.

"The size of the cave was decided on and the ground leveled off, then ditches six inches deep and a foot wider than the proposed inside measure of the cave were dug and the earth thrown to the center. Boards were put up for the square finish at the door end. The earth was raked and smoothed then patted firm into an approximately true arch.

"Heavy galvanized wire was cut into foot lengths, bent into shape, and the rounded end stuck into the mound of earth an inch and a half. They were set in rows to furnish loop supports for shelving if wanted in the cave or to fasten hooks to. A six-inch glazed tile was jammed into the soft earth on the back of the mound to serve as a ventilator, and the cement and sand, five shovels of sand to one of cement, were shoveled into the mixing box, thoroughly mixed, moistened, and then filled into the trenches and over the mound of earth. The cement was six inches deep in the trenches at the sides and three inches thick at the top of the arch.

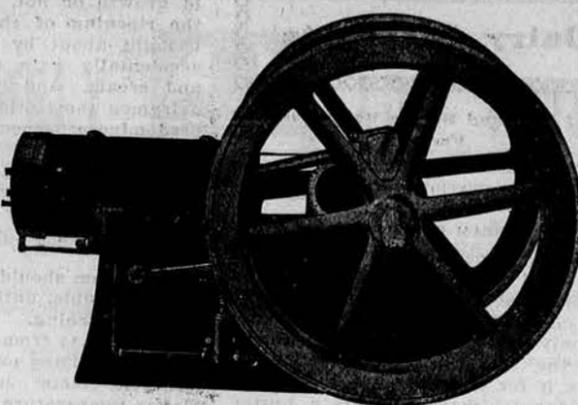
"As a finish against moisture, a half-inch of cement mixture that was nearly half and half was spread over the first coat when firmly set; as the first coat was rough there was no trouble about adhering.

"The entrance was spaded out, exactly as intended, leaving earthen steps, and then the interior was spaded out from under the arch, after it had stood for three weeks. Pegs driven at the four corners told where the digging should go and leave a foot shoulder bearing on the earth on each side.

"After it was trued up, the floor was covered with cement an inch and one-half deep, the walls were given two heavy coats, the steps cemented, and the sides of the entrance heavily coated. On the ground adjoining the door boxes were made of boards and cement put in for the door to swing close on. Iron hinges were imbedded in the cement before it hardened and then they were fastened to a wooden door.

"All the wood used in making the cave was the door; in regular use a second door at the bottom of the steps would be necessary for extremely cold weather. With \$15 or \$20 worth of cement, a farmer can make for himself in this manner a cave that would cost him from \$100 to \$150 to have it built in the usual way. The cave described is about eight by ten and seven feet deep. The sand and cement used in making it cost about \$10. Part of the work was hired done, which cost, like that of the sand, would be needless expense on the farm."

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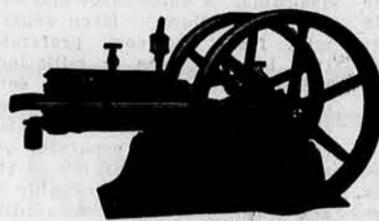
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Dairy Interests

Care of Milk and Butter-Making on the Farm.

H. E. VAN NORMAN, PERDUE UNIVERSITY EXPERIMENT STATION BULLETIN 96.

CREAM-RIPENING.

Speaking generally the ripening of cream is all of the treatment it receives from the time the milk is drawn until it is churned, while specifically and commonly it is the particular treatment given the cream after separation to prepare it for churning.

The general market wants a butter with a flavor that can only be secured by ripening the cream properly.

Ripening is a souring of the cream. When cream or milk sours, the milk sugar is changed to lactic acid, by lactic acid producing germs. The bacteriologist finds that there are several forms of lactic acid producing bacteria; also that some forms of bacteria produce acid without thickening or curdling; others produce the reverse; again, some produce gas; while slimy or ropy milk, red, or sometimes called bloody milk, are other products of bacterial growth in milk and cream. In general, the changes which occur in milk are due to some form of bacterial life.

Bacteria are minute forms of plant life; they grow rapidly at a temperature of from 60° to 90°; they require food and moisture like higher forms of plant life; they are prevented from growing by cold; are killed by moist heat, most of them by a temperature of boiling water; they may remain inactive for a long time, then grow rapidly when conditions again become favorable; they grow or multiply usually by division, which may happen every twenty minutes, or may require several hours; in the process of their growth they cause some change in the material in which they are growing. It may be a useful or a harmful one for the dairyman.

The character of the change will be largely determined by the kind of bacteria present, whether from the dust of the air, dusty hay, the flanks of the animal, the seams of imperfectly washed utensils, from a good home-made starter or a commercial starter from a pure culture. The change may be retarded by excluding bacteria, by stopping their growth with cold, or by killing with heat. The change may be hastened by introducing bacteria, or by a favorable temperature. The rapidity of the change will depend on numbers of bacteria present and whether the

temperature is favorable to their rapid growth or not. In the farm dairy the ripening of the cream is usually brought about by the bacteria which accidentally gain access to the milk and cream, and fortunately for the dairyman the lactic acid germs usually predominate, especially in the clean, well-kept dairy.

An understanding of these principles should materially assist in the handling of dairy products to bring about desired or prevent undesirable changes.

The cream should be kept cold, below 50° if possible, until enough is secured for a churning. It should then be warmed up to from 65° to 70° and held until it becomes sour and has a pleasant acid taste; occasionally a little higher temperature may be needed. If the cream was sweet it will usually require eighteen to twenty-four hours to sour it. No cream should be added to that to be churned for at least twelve to eighteen hours previous to churning; during this period it should be stirred several times to insure uniform ripeness. When cream of unequal degrees of ripeness is churned, it requires a longer time to churn and there is a much larger loss of butter-fat in the buttermilk. When a layer of cream is seen on the buttermilk that has stood, it is usually due to churning cream too sweet, or part sweet and part ripe cream.

At least two hours before the cream is churned it should be cooled to 50°-56°. If not too ripe it may be held at this low temperature for twelve hours. This cooling will do much to make a firm butter. When it is difficult to secure the desired flavor or when undesirable flavors due to the kind of bacteria which predominate are troublesome, or when under clean conditions in very cold weather the cream does not ripen sufficiently or even enough, a starter may be used to advantage.

Starter.—A starter may be sour skim-milk or buttermilk put in the cream to hasten or control the character of the ripening.

Buttermilk may be used when the butter made was of particularly good quality, especially if churning every day or every other day. A skim-milk or home-made starter is usually more desirable. A home-made starter is prepared as follows: Keep separate the milk from one cow, preferably one that has not been in milk long (the factory butter-maker must select the milk of some patron who takes more than ordinarily good care of his milk); run it through the separator or set in a vessel by itself. Fill one or two fruit jars that have been thoroughly cleansed and scalded, with this skim-milk; place these in a pail or other convenient vessel of water at a temperature of 90°.

In cold weather it may be necessary to warm the water up once or twice by adding hot water or otherwise. In from eighteen to twenty-four hours, the milk should become nicely loppered, like a soft gelatin, when it is ready to use. If allowed to stand until the curd becomes firm, it will cause particles of curd to appear in the butter. When ready for use it should have a pleasant acid taste, free from objectionable taints and flavors.

In preparing a starter of this kind it is assumed that lactic acid bacteria have gained access to the milk in sufficient numbers that by holding at a favorable temperature for their development they will predominate over the less desirable forms, especially those which thrive at low temperatures. Experience shows this to be true.

A skim-milk starter can not be depended on always. It is wise to prepare two jars and use the best one, or if not right, neither should be used.

Commercial Starters.—Several firms are putting on the market pure cultures of bacteria, known as commercial starters, which have been found to give very satisfactory results in the creamery where large quantities of butter are made and even a slightly increased price for the butter will more than pay for the time and labor required for preparing starters. Under ordinary conditions about 10 to 12 per cent of starter is sufficient, that is, one quart of starter to two and a half gallons of cream. If the cream gets ripe too quickly, use less starter; if too slowly a little more next time. Rules and suggestions for ripening cream are but helps. Conditions vary so from day to day and month to month that only the person who uses judgment and close observation can be sure of the best quality of butter from day to day. It is uniformity of quality and product that holds the trade and commands the higher price.

THE CHURN.

The kind of churn which has no inside fixture, but dashes the cream from

one side or end to the other by the motion of the churn, has proved most satisfactory.

The paddles, dashers, etc., of whatever pattern, are apt to hurt more or less the texture of the butter; also cause a loss of butter in the cream, which adheres to them and to the corners of the churn, especially when the cream is a little thick.

When the churning is done in such a short time as is claimed by admirers of many so-called improved churns, it is usually at a sacrifice of butter-fat left in the buttermilk, even though it may not be apparent to the eye.

Wooden churns are to be preferred to metal; because of their getting loose in dry weather if not used frequently or properly taken care of, a steel barrel churn, tinned inside and painted outside, has been put on the market. The objections to it are that the cream warms up more easily when the room is warm and more butter will adhere to it than to the wood. Care must be exercised to wipe it dry or it will rust. On the other hand the cream might be kept in it till enough is secured for a churning, making one less vessel to care for.

The size of the churn should be such that it will never be filled over half full, and better if only one-third full. Where the ordinary churning amounts to from two to five gallons of cream, a fifteen-gallon churn is a desirable size.

The speed of a barrel or box churn which revolves should be sufficient to carry the cream to the highest point allowing it to fall the length of the churn. If it is turned too fast the cream will remain in the ends; if too slow it will slip around and churn slowly. The agitation which results from concussion is more desirable than that from friction.

The time required for churning depends on the ripeness of the cream, the temperature, the fullness of the churn, the amount of agitation, and the richness of the cream, and to a lesser extent, period of lactation, and feed. Quick churning usually means large loss of butter in the buttermilk. Under ordinary conditions, twenty to forty minutes is a reasonable length of time for churning and no objection to an hour if firm butter and thorough work are desired, especially if the churning is done with other than hand-power.

Temperature.—The only rule which can be given is "churn at as low a temperature as possible and have the butter come in a reasonable time." A high temperature makes quick churning, large loss of butter in the buttermilk, and soft butter; a low temperature requires a longer time, makes a firmer butter, and reduces the loss in the buttermilk. While most cream can be satisfactorily churned in twenty to forty minutes at some temperature between 50° and 60° F., some unusual condition may require a little higher temperature or longer time. In the experiment station dairy, 54° to 56° is the usual churning temperature. When gluten-meal or feed is fed, the churning temperature may be lowered two to four degrees, while if much cottonseed-meal is fed it may be raised a little if the butter is slow in coming.

The variations in the churnability of cream from different cows, and herds, from the same cows at different seasons of the year, and varying stages of lactation require some variation in the churning temperature. Use a thermometer; then if the butter comes quick and soft, lower the temperature of the cream next time. It is very desirable that the cream be held at the churning temperature for at least two hours previous to churning. The butter will be firmer if this is done. There is no objection to its standing longer if the cream is not over ripe.

Difficult Churning.—In the winter when the cows are on dry feed and have been milking for nearly a year or more and give only a small amount of milk, it is frequently difficult to make the butter gather.

Skim as thick a cream as possible; ripen the cream as described elsewhere till there is a pronounced acid flavor; do not fill a barrel over one-third full and churn at a little higher temperature.

Color.—If selling butter to the general market, use color if necessary to make the butter about the color of June butter. For private trade, color or not, as suits the customers. The standard butter colors are harmless and tasteless in the quantity needed. The amount required is small and can only be determined by trial. As the color combines only with the fat, a rich cream will require more color per gallon of cream than a thin cream. The color should be added to the cream just before starting the churning.

Stopping.—Stop the churning when the granules of butter are about the

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size of wheat grains, float freely, standing partly out of the buttermilk and separate readily from it.

If the butter comes very soft, cold water may be added when the butter begins to break. When the granules form small and refuse to "gather" and separate from the buttermilk, a little strong brine made by dissolving dairy salt in cold water will usually help the separation of the butter from the buttermilk. A little salt may be thrown into the churning, but it is better to use the brine. Of course much of it will spoil the buttermilk for drinking or cooking.

Straining.—In drawing the buttermilk from the churn it is well to strain it through a cheese cloth or hair strainer, which will catch the crumbs of butter that may otherwise be lost.

Washing Butter.—By washing the butter while still in the churn with about as much cold water as there was buttermilk or a little more, the buttermilk may be very thoroughly removed.

The washing removes the casein, curd, of the buttermilk. The casein which may be left in the butter spoils very quickly, hence it is desirable to have as little of it in the butter as possible.

A second washing may be required. Excessive washing should be avoided as it may injure the flavor of the butter. The temperature of the wash water should be a little, three or four degrees, below the churning temperature. If wash water is very cold, the outside of the butter granules are hardened while the inside remains soft, so that when salt is added it will not be evenly mixed through the hard and soft butter by the working. This uneven distribution of salt will cause mottled or streaked color in the finished butter.

Salting.—Only the best grades of dairy salt should be used for butter. It may be added as a brine after washing the butter. This method wastes a good deal of salt and is only desirable where a very mildly salted butter is wanted.

The salt may be sprinkled on the butter while it is yet in the churn, then revolve the churn a few times till the butter is partially gathered, and allow it to stand, if convenient, for an hour or two, so the salt may become thoroughly dissolved, and finish working either by revolving in the churn or taking it out.

The butter may be removed from the churn while in the granular form; spread on the worker, and sprinkle the salt over it. Work a little to incorporate the salt and possibly allow it to stand a little while till the salt dissolves; then finish the working.

The amount of salt used must be determined by the demands of the market. For the general market one ounce of salt for each pound of unworked butter is about right. The main thing is to learn what the market wants and then adopt a method which will give uniform results. If it is not convenient to weigh butter and salt, use a small measure of salt for a certain number of gallons of cream. For a hand-separator cream this method will give quite uniform results.

Working.—The butter is worked to expel the surplus moisture, to incorporate the salt, and to give the butter a compact body. Overworking injures the texture and make the butter appear greasy. When possible, it is desirable to work the butter a little and then allow it to stand for a couple of hours, or until next day; then finish. If there is not a suitable place to keep the butter in between workings, it is better to finish it right up. The working should be stopped when the butter breaks, with a slight tendency to hold together or string out in short pin points. As soon as it passes the stage where it breaks with a clean break, stop working. More butter is injured by overworking than by insufficient working.

Package.—The package should suit

MILK CANS ROB YOU

Look through a microscope at milk set to cream in pans or cans and you'll see how they rob you. You'll see the casein—the cheese part—forming a spiderweb all through the milk. You'll see this web growing thicker and thicker until it forms solid curd. How can you expect all the cream to rise through that? It can't. This



casein web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using Sharples Dairy Tubular Cream Separator, you stop that loss.

Sharples Dairy Tubular Cream Separator has 1000 times more skimming force than pans or cans, and twice as much as any other separator. They get all the cream—get it quick—get it free from dirt and in the best condition for making Gilt Edge Butter. Casein don't bother the Tubular. The Tubular is positively certain to greatly increase your dairy profits, so write at once for catalog I-165 and our valuable free book, "Business Dairying."

The Sharples Separator Co. West Chester, Pa. Toronto, Can. Chicago, Ill.

the market. Pound prints (standard size 2 1/2 by 2 1/2 by 4 1/2 inches) are gaining in public favor very rapidly and are a convenient form for packing, for handling, and for table use. Wrapped in first-class parchment paper and placed in a manilla wrapper, called cartons, good butter will command a fair price and in most markets a cent or more above that which is equally good packed in jars or irregular packages.

If prints are to be packed in boxes immediately, it will usually be better to wrap them in dry paper, while if they are to be handled or allowed to stand, the paper will stay in shape better if dipped in cold water before wrapping.

Do not use wax paper for butter. A strong dairy parchment paper is the best for the purpose.

Marketing.—Private customers who will contract for a regular supply at a fixed price are usually the highest price market available to the maker of first-class dairy butter, as the express charges, commission, etc., on comparatively small lots are too high to warrant shipping. While private customers pay the highest price for good butter regularly supplied, the time required in delivery and collections is considerable. Frequently a grocer who has the best class of trade will contract for all of the butter at a fair price. Uniform quality from week to week and regularity of delivery are essential if fancy prices are secured. (To be continued.)

Cream for City Trade.

ADDRESS BY S. C. THOMPSON, BEFORE CONNECTICUT DAIRYMEN'S ASSOCIATION.

I will consider in this paper the subject of preparing sweet cream for market, which in some sections of New England, particularly in the State of Maine, is of as much importance as the manufacture of butter and quite as difficult. During the last fifteen years there has developed in the cities of New England, particularly in the eastern part, a demand for market cream, which is constantly increasing and which affords better prices than making butter. To-day, the creameries in the State of Maine are selling more pounds of butter-fat in cream than they are in butter for direct consumption, and they are paying their patrons from 2 to 3 cents per pound of butter-fat more for their product than they could if it was made into butter.

It requires as much skill to prepare cream for market as it does to manufacture butter, for the taste of the consumer of this product is as keen as the butter consumer's, though a somewhat different principle is involved. The high flavor of butter is the result of desirable fermentations, while the flavor of cream is the result of prohibiting fermentations. The butter-maker finds an entirely different proposition when he attempts to prepare cream for market, with a result that while he can make good butter, he is not so sure of his cream product and prefers to remain at his butter-making. Consequently, it is necessary, in order to become a successful operator, to understand the underlying principles and to guard against the many difficulties which arise in the various stages of this work. The factories, as a rule, are supplying this demand, although a few private dairymen are now shipping direct to the city trade, finishing the product themselves. But the dairyman with a small herd can not fit up to do this work profitably, consequently his product is sold to the factory, where, under the direction of an expert in his work, it can be more cheaply done.

I would not give the impression, however, that this work can not be done successfully by any dairyman who has a knowledge of it and is willing to confine himself within the narrow limits which make it successful. The demand to-day is for pasteurized sweet cream containing 40 to 45 per cent butter-fat. It sells at retail for 15 cents per half pint or \$2.40 per gallon, and is on sale in practically every grocery store and market in the cities and many small towns, so that the customer can get a supply at any time during the day, or it may be ordered with meats or groceries. Because of its being accessible, the demand for cream is rapidly increasing, and by being pasteurized it keeps sweet for a sufficient time to insure its sale. The consumption of butter-fat is also increased because cream containing 45 per cent fat is more than twice as rich as the average milkman's cream and is frequently used for exactly the same purpose, with a result that double the amount of butter-fat is consumed at a correspondingly increased price.

THREE GRADES OF CREAM.

In order to successfully prepare

cream for sale in this way, whether it is to be pasteurized or not, all the milk or cream when received must be carefully sorted and selected according to its flavor and appearance, being graded into two and, sometimes, three classes. In the first place would be put that product which has an especially marked, sweet flavor. The next would contain that which lacks flavor or what is termed flat. It is used for second-class trade or thinned for ice-cream. The third class would contain that which is so tainted or sour as to make it unfit for use as sweet cream and which must necessarily go into butter. As a rule, however, but two grades are made, the better of which is prepared to be sold as cream, while the poorer is made into butter.

This matter of grading is a very particular and fussy job, for mistakes must not be made. A can of sour cream allowed to get in with the sweet will necessitate the churning of the whole product. That cream which has been selected to be prepared for market is put in a vat by itself preparatory to being pasteurized, while the other grade goes into a ripening vat preparatory to being made into butter. The pasteurizing process must, as a rule, be done at the factory and is necessary when different lots of cream are selected and mixed together in order that it may keep sufficiently long to stand transportation of 250 or more miles, be sold by the jobber to the bottler and from the bottler to the store, then to the consumer and remain sweet until it is used, under sometimes very trying conditions, the whole period covering six to ten days.

HOW CREAM IS PASTEURIZED.

The pasteurizing process is a particular one and must be carefully and thoroughly done, if the cream is to keep the required length of time. It must not injure the flavor by allowing too much heat, which will give the cream a cooked taste. The method generally used is to run the milk, the thin cream raised by the Cooley process, or the farm-separator cream, through a continuous pasteurizer, then through the factory separator where it is separated. The cream is then conveyed to a retaining vat.

The temperature when it comes from the pasteurizer is usually 150° to 160° F., and the cream is held in the retaining vat from 20 to 30 minutes at about 150° F., when it is run over a cooler into sterilized 10-gallon cans and set in ice water to cool. It is held for 24 hours. Then it is put into refrigerator cars or else into boxed cases and iced. After the cream has all been run into the retaining vat, the whole mass is thoroughly mixed and tested for butter-fat and enough skim-milk added to reduce it to a certain guaranteed standard.

The whole process must be carefully watched, for cream must be so selected, prepared, and cared for that it shall not have a flat, tainted, or cooked flavor, and the skill of the operator is shown by his ability to do this work. The cream must be guaranteed as to the amount of fat it contains, and while it should be up to the guarantee, it should not exceed it. It must run uniform, for customers readily distinguish the difference in the density from day to day, and when it shows thin they are likely to complain. The contrast is always greater if it is allowed to run on some occasions exceptionally thick. Thus we can see the necessity for uniformity; for cream containing the same amount of fat varies in appearance from day to day, unless the utmost care in handling is used and the age is carefully noted.

SOME INDICATIONS OF INFERIOR CREAM.

Cream must reach the consumer in this perfect state and remain unchanged from 24 to 36 hours, for an old, bitter, or sour taste makes it worthless and it is not a good plan for a customer to find a jar of this kind. Cream usually shows a disagreeable, sour odor before it will taste, but it is a forerunner of trouble soon to follow and the odor is almost as objectionable as is the flavor. This shows a lack of care somewhere, or that it has been kept beyond a reasonable limit. Frothy, foamy, and lumpy cream is undesirable and shows a lack of care or skill in the preparation, the ideal appearance being a smooth, velvety cream pouring thick and of good, rich color. Any sediment in the jar, whether of cream or milk, shows slovenly practice in some part of the work from the milking up, though the separator removes most of the dirt particles and acts as a clarifier. All these conditions must be considered and overcome, for, unlike the sale of butter which can be sold at some price, if inferior in quality, cream is practically worthless when it is below the recognized standard quality.

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An Indispensable Book

Providing for a record of exact information about every item of transaction or event on the farm for five years. It is divided into two divisions, Diary in one and Accounts in the other. In the Diary there is space for five years. Here it shows you the occupation of the day; here are any special incidents that you wish to remember the date of.

The Account part is indexed (read indexes) handy arrangement we think.

Hired help. This is for your labor account; shows the name of the one hired, time worked, wages paid, how paid, etc.

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Live-stock account has a double ruling, sales and purchases for each kind of stock being side by side, and as this is to be for five years it makes an interesting comparison. Then over here you have a history of each deal that you make.

Grain and fruit are ruled and printed in the same way, also space for sales on butter and milk or cream, eggs or poultry, in fact there is space for everything raised on a farm and all you have to do is to make the figures. It certainly is an easy matter to have your affairs in shape if you have a system like this.

The inventory sheets are short but businesslike, you fill in under the proper headings the value of the different kinds of stock, grain, tools, buggies, wagons, etc., and the total is of course, the amount of your resources; then under this other heading you fill in anything you happen to owe on these things, and the difference is your actual worth. This is left in the book and the next year you do the same thing and the difference is your profit for the year.

Bound in Leather and Cloth, or heavy board cover, and delivered to your express office, including a year's subscription to THE KANSAS FARMER and THE HELPFUL HEN.

Leather and Cloth \$2.50.

The Account Book alone without the Five Year Diary of Events, in Heavy Board, \$1.50.

The Kansas Farmer Co.
Topeka, Kansas

PLYMOUTH ROCKS.

FOR SALE—A choice lot of B. P. Rock cockerels at \$1 each. D. N. Hill, Lyons, Kans.

FOR SALE—40 White Plymouth Rock cockerels, also one M. B. gobbler and three hen turkeys. J. C. Bostwick, Hoyt, Kans.

BARRED ROCK COCKERELS—Bradley strain. Few exhibition. Also breeding cockerels and pullets. Write for prices. Mrs. W. A. Scheler, Argonia, Kans.

BARRED ROCKS my specialty; a fine lot of cockerels from prize winners for sale reasonable. Peter Reber, Neosho Rapids, Kans.

FOR SALE—Buff Rock cockerels; good scoring birds \$1 and \$2 each. Mrs. John Bell, Ackerman, Kans.

WHITE ROCKS and WHITE WYANDOTTES—Young and old breeders for sale at attractive prices. W. L. Bates, Topeka, Kans.

BARRED PLYMOUTH ROCK EGGS—From free range stock, no other fowls kept on the farm. Price \$1 for 15; \$5 for 100. Mrs. C. F. Brown, Box 61, Manchester, Oklahoma.

B. P. ROCKS AND BUFF ORPINGTONS—Eight grand matings. Send for price list on eggs and Colbie pups. W. B. Williams, Stella, Neb.

BARRED PLYMOUTH ROCKS

FOR SALE—Barred Plymouth Rock cockerels at \$1 and \$1.50 each. Address A. C. Merritt, Hill Crest Fruit and Poultry Farm, North Central Ave., Topeka, Kans. Ind. phone 4851.

BARRED ROCKS A SPECIALTY

Also Nine Other Leading Varieties. If you want to win at the poultry shows, or make a success of poultry on the farm, we can supply you with stock. Circulars free. Write your wants. A. H. Duff, Larned, Kans.

SPECIAL SALE OF BARRED PLYMOUTH ROCKS.

I will sell 50 yearling hens to make room, at \$1.00 each. These hens are barred to the skin. All my last season's pen breeders, the kind that produce exhibition cockerels. Right here is a chance to get some No. 1 stock at a low price. Let me mate up a trio or a pen that will start you right. I will also sell 10 cocks including the 2d and 5th prize cockerels at the Kansas State show of 1906. Description, price and photographs of any winners sent free. I will also sell cockerels until December 15 at \$1.50 each, sired by my first prize males. Write for prices on exhibition stock. Satisfaction guaranteed or money refunded. A. H. Miller, Bern, Kans.

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 250 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 expressage to any express office in the United States. Yards at residence adjoining Washburn College. Address THOMAS OWEN, Sta. B, Topeka, Kans.

LEGHORNS.

FOR SALE—A limited number of S. C. White Leghorn cockerels; pure bred birds bred for laying and size. Price \$1, if sold at once. Mrs. T. R. Wolfe, Route 2, Conway Springs, Kans.

FOR SALE—Single Comb White Leghorn cockerels. Wyckoff laying strain. Price, 75 cents and \$1. Henry Martin, Newton, Kans.

THOROUGH-BRED Rose Comb Brown Leghorn cockerels, \$1 each; three for \$2.50. Samuel Mannen, Lincoln, Kans.

ROSE COMB BROWN LEGHORNS EGGS, 15 for \$1, 50 for \$2.50, 100 for \$4. Mrs. John Holzhey, Bendona, Kans.

STANDARD-BRED SINGLE-COMB BUFF LEGHORNS—Headed by first prize pen Chicago show 1905 and took six first prizes and first pen at Newton 1904. Eggs \$3 for 15. S. Perkins, 801 East First street, Newton, Kans.

SINGLE-COMB WHITE LEGHORN cockerels, \$1 each; two or more 80 cents each. Fine white pure, thoroughbred birds. Also a few Barred Plymouth Rock, barred to the skin—fine, pure and vigorous; hens, cocks and pullets, \$1 each; two or more, 80 cents each. All of our customers are very well pleased. We will make reductions on large lots. Meadow Poultry Farm, Centerville, Illinois.

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

FOR SALE—Exhibition S. C. Black Minorca cockerels, \$2. I guarantee them. Address George Kern, 817 Osage Street, Levenworth, Kans.

Buff Leghorns

Pure-bred S.C. cockerels \$1 each, 5 for \$5. J. A. Reed R. 3, Wakefield Ks. Examine any fowl bought of us at the express office. If not satisfied return and get your money, less express charges one way. Our fowls are strictly tops. Buff Black and White Langshans, five varieties of Leghorns, and many other breeds to select from. Get busy or your choice will be gone. Write J. A. LOVETTE, Prop., MULLINVILLE, KANS.

COCKERELS

Of thirty-two of the leading varieties, being farm raised, no two on the same farm. To make room for winter quarters, Leghorns three for \$5, all other varieties in proportion. Address W. F. Holcomb, Mgr. Nebraska Poultry Co., Clay Center, Neb.

BLACK LANGSHANS.

BLACK LANGSHAN cockerels and pullets from prize winner, \$1 each, if taken at once. Mrs. Geo. W. King, Solomon, Kans., Route 1, box 4.

BLACK LANGSHANS

which will please you at prices that will satisfy you. Bred from stock from such breeders as Mrs. M. A. Smith, Ben S. Myers, Ashe, Hettich, King, etc. Write for prices and descriptions.

MRS. E. S. MYERS, Box 174, Chanute, Kans.

Cream, when once frozen solidly, has a tendency to separate—the solids from the water—and is practically worthless for any of the usual uses to which it is put. The same is true with cream which has become granular and which shows particles of butter in suspension. Probably the most severe test for cream is using it in coffee where, if it mixes smoothly without buttering, curdling, or showing lumps, it is satisfactory for any ordinary use.

The Poultry Yard CONDUCTED BY THOMAS OWEN.

Poultry Pointers. The premium list of the State Poultry Show, to be held at Wichita, January 7 to 12, is now ready for mailing, and a copy can be had on request to the secretary, Thos. Owen, Sta. B., Topeka, Kans.

All poultry-breeders in the western and southwestern portions of the State, should avail themselves of the opportunity now afforded them, of sending their birds to a State show that is in their immediate vicinity. The old cry has always been that the State show was so far away, that there was no inducement for the Western breeders to send their birds so far. Now is the time for you to exhibit your birds, or forever after hold your peace.

Now is the time for you to be handling your birds and getting them accustomed to seeing persons around them, for there will be an immense crowd to look at them at Wichita.

As the weather gets colder, the price of eggs gets higher. Thirty cents per dozen is what you must pay for fresh eggs in Topeka these days, and real fresh ones are scarce at that. You should make your hens lay now so as to realize the best prices. Lazy hens will not lay, and in cold weather they incline to huddle in the houses. Scatter grain plentifully in the straw in their pens and force them to hustle to satisfy their appetites. Give your heaviest feed at nightfall, for the nights are long just now, and it is a long time between meals.

During sudden changes, when it is summer temperature one day and winter weather the next, the fowls are apt to contract colds, which if neglected may run into roup. As a preventive of the latter, whenever a fowl shows evidence of a cold or congestion, shut it up by itself in a coop and give two grains of calomel at night, followed by a one-grain quinine pill night and morning for two or three days. If there is any discharge from the nostrils, a few drops of camphorated oil, or turpentine and coal-oil, should be injected into the nostrils. If any improvement is manifest in two or three days, the fowl should be removed to a small pen and a solution of copperas added to the drinking water. It should be kept here for a week or two, or until it shows a complete recovery. If, on the other hand, after two or three days' observation and treatment, no improvement is manifested, the bird should be killed and buried. It does not pay to fuss too long with a sick chicken, and unless it is a pure-bred and therefore extra valuable, it won't pay to spend your time on a twenty-five cent chicken.

Save the Feathers.

Where a number of fowls are killed, the feathers amount to quite a sum of money. Not only are the feathers of ducks and geese valuable, but the despised feathers of the hen and turkey have a cash value, and are in demand in all large cities. White feathers are the more desirable, though the dark ones are not rejected. The body feathers are used for pillows, beds, and bolsters, while the tail and wing feathers of turkeys are used in the manufacture of feather dusters. A circular from the largest dealer in feathers in the United States has the following suggestions to offer on the care of all kinds of feathers:

- 1. The condition of the feathers is a most important factor. All body feathers will heat if sacked up before being thoroughly aired and dried. The stock make be apparently dry when shipped, but unless the animal heat has been thoroughly removed, the feathers will become warm and damp again in a short time. It is, therefore, necessary to spread all body feathers on a clean floor, not over four to six inches thick, and turn them every day until dry. Give them plenty of air except in extreme weather.
2. Keep your turkey and chicken

body feathers separate. You will get better returns.

- 3. Keep all quills out of body feathers.
4. Turkey quills, particularly tails, should be thoroughly aired before packing. Dry quills only bring the top of the market.
5. Separate the tails, wings, pointers, and short quills. Much labor is saved if this is done in plucking.
6. The packing of stock should also be looked after carefully. Quills should be packed in boxes, each kind separate, and care taken to get the exact tare of the box and cover. If quills are shipped any great distance, sacks can be used, provided they are good ones, and the quills are laid into them as straight as possible. Quills should not be dumped into sacks without regard to condition.
7. Shipping—See that each and every sack or box has your shipping tag or mark with gross weight and tare. Your letter of advice of shipment should have full particulars, separate weights, tare, and net weight. This is very important for quick handling of goods.

That Winter Egg Problem.

With the wind blowing at almost hurricane clip, the air filled with snow, the temperature running way down below zero, and all vegetation taking its long winter sleep, to go into a nice, comfortable house where the fowls are singing and scratching and shelling out eggs at a good profit, and as happy and contented as rolling in the cool dust under the shade of a friendly tree on a midsummer day, or chasing grasshoppers over the meadow during the pleasant days of autumn, is enough to arouse in the heart of most any one a deep longing to possess such a poultry house and such a happy and profitable flock of fowls. This is no dream, the product of a fertile imagination. Such a poultry house and such a happy, profitable flock of fowls may be seen on many a poultryman's ranch during the coming winter. It did not used to be so in years past, but the poultrymen are solving the problem along with the many others in poultry culture; they are coming more and more to understand the requirements necessary to produce, or rather to induce the fowls to shell out eggs when the elements are raging without.

Already the poultrymen are getting their fowls into winter quarters. Some have even had them in for a month or more, perhaps. It is the aim to get them into winter quarters as early as possible, as changing from one location to another is not productive of good results. In getting the fowls in early they become used to their new quarters and get down to business early in the season, and then with proper care keep shelling out eggs all winter long, with apparently no notice of conditions out in the open. But from the fact that these eggs bring a handsome price the amateur, or novice, should not include that it is all profit. Such is not the case. It takes better care and more feed to produce a given number of eggs in winter under the most favorable conditions than in spring and early summer, which is the natural egg-producing season. On the other hand, because winter eggs are not all profit and the problem of securing them seems difficult, or various attempts to secure them have proven unsuccessful, the amateur should not be discouraged from putting forth efforts along this line. The results when one masters the problem are sufficient to warrant one in putting forth the necessary effort.

Some suggestions along the line of proper requirements in the way of housing and feeding for winter egg production may be of interest. Poultrymen differ somewhat in the problem of proper housing. The open front poultry house has its ardent advocates, and it no doubt has points of excellence, and instances are on record where fowls have spent severe winters in an open house and produced most excellent results. At one of the northern experiment stations the best results were obtained with an open front poultry house such as referred to above. It was single walled with the cracks battened and about one-half the front open, but so as to be closed on stormy days. The roosting quarters were in the same building and were not protected, the fowls roosting in the same

WYANDOTTES.

FOR SALE—High-class poultry. White Wyandottes, Silver Laced Wyandottes and White Plymouth Rocks. Prices reasonable. R. F. Meek, Hutchinson, Kans.

WHITE WYANDOTTE COCKERELS—\$1, \$2 and \$3 each. Great grandsons of Old Duke. Thirty three premium at three shows. Order direct from this ad. Hattie A. Weid, Greeley, Kans.

GILT EDGE POULTRY CO. We have special bargains in S. L. Wyandottes, S. C. Brown Leghorns, Buff Wyandottes and B. P. Rocks, if taken at once. Write for catalogue. Walter Hogue, - Fairfield, Neb.

WHITE WYANDOTTES.

If you need the highest quality for breeders or show birds at reasonable prices write me. Cockerels now ready for shipment. Illustrated catalogue free. Address G. A. Wiebe, Box A, Beatrice, Neb.

THE MODEL POULTRY FARM

Yorkshire swine, Toulouse geese, Pekin Ducks and Wyandotte chickens. Winners of 88 prizes and 5 specials. Now is the time to order your breeding stock for next spring. A square deal guaranteed. Eggs in season. C. M. Stoll, Route 6, Beatrice, Neb.

SILVER LACED WYANDOTTES—Thoroughbred cockerels \$2; pullets \$1.50. Jewett Bros., Dighton, Kans.

WYANDOTTES—Pure white. Young stock at \$1 each. L. E. Brown, Norton, Kans.

WHITE WYANDOTTE COCKERELS—Show birds or choice breeders at \$1.00 to \$5.00 each. S. W. Arts, Larned, Kans.

RHODE ISLAND REDS.

ONE DOLLAR buys 15 eggs of either Rose Comb R. I. Reds or Barred Rocks from prize-winning stock at the college show. Mrs. A. J. Nicholson, Manhattan, Kans.

BUFF ORPINGTONS.

BUFF ORPINGTONS AND BUFF LEGHORNS. Catalogue free. W. H. Maxwell 1240 Quincy St., Topeka, Kans.

BRAHMAS.

LIGHT BRAHMAS More prizes than any breeder in the state; 10 firsts this season. Eggs \$1.50. Cockerels \$2 to \$4. T. F. WEAVER, - Blue Mound, Kans.

Light Brahma Chickens

Choice pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kas., Route 4

PARTRIDGE COCHINS.

PARTRIDGE COCHINS \$1 each. Address W. F. Swift, Ottawa, Kans.

MAMMOTH BRONZE TURKEYS.

MAMMOTH BRONZE TURKEYS FOR SALE—Inquire of B. B. Kauger, Puffer, Kans.

MAMMOTH BRONZE TURKEYS—I have young toms and hens for sale. Toms, \$5; hens, \$4. Large bones and frame. From the best strains of blood. Eggs for sale in season, 40 cents an egg. Letters of inquiry promptly answered. Mrs. A. D. Watts, Route 2, Box 24, Hallowell, Kans.

SILVER CUP WINNERS

(Extra Large) Mammoth Bronze turkeys and Barred Plymouth Rock chickens. Forty-four premiums on six exhibits; three silver cups; four sweepstakes; one trophy; 22 firsts; 15 seconds and 10 thirds. —Address—

Col. E. Walters, Cunningham, Kans.

MISCELLANEOUS.

GREAT BARGAINS In fine poultry, 400 lbs. of four teen of the best varieties. Send for circular and prices. T. J. Pugh, Fullerton, Neb.

AGENTS—to sell and advertise our Poultry Company; \$55 weekly; rig furnished. Franklin Manufacturing Company, Norwalk, Ohio.

THE HELPFUL HEN BEES & PIGEONS

Subscription 25 Cents a Year. "OUT THERE IN KANSAS" All about the chicken industry in Kansas, the bees and pigeons. Full of information illustrated and made plain for the people. Practical, by and for practical people. The paper that reaches the chicken folks. If you are interested in poultry, bees, or pigeons THE HEN will interest you. Address THE HELPFUL HEN, Topeka, Kans.

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Clay Center, Neb. Here you can get Scotch Collies by sires that are personally imported from Europe. Have sold over 200 puppies this year. Write us for prices.

The Talbott Poultry Farm

Breeders of the best in the world. Strain of Buff, Brown and White Leghorns, Barred Rocks and White Wyandottes. My birds have won at Chicago, Galesburg, Moline, Illinois, Fremont, Hebron and State Poultry Show of Nebraska, and they will win for you. 800 old birds for sale at \$1.50 each; also 1,000 youngsters at \$1.00 and up.

W. R. TALBOTT, Prop. Hebron, Neb.

temperature as they remained in during the day. In this kind of a house the egg production was greater, there was a higher per cent of fertility, and healthier fowls. What might be called a warm house was experimented with at the same time and did not prove satisfactory—the fowls were not so healthy, the egg production not so good, and the germs weak. Houses of a medium character were also used and while they produced better results than the warm house they did not come up to the cold, open front style. This would lead one to believe that the open front house is to be preferred, although the comments in the report of this experimental work were such as to lead one to take up this style of house with caution.

The house of a medium character, one neither closed and kept warm like a hot house nor left open and exposed to all the sudden changes of temperature, it seems to the writer commends itself to the thoughtful poultryman. Taking all things into consideration this style of house is much to be preferred for a northern climate where changes are often sudden and severe. With the fowls exposed, it hardly seems reasonable to suppose that they will eat no more than where comfortably housed. It is also reasonable to believe that where comfort reigns the fowls will be happier and more contented and therefore more profitable. Such a poultry house does not embody the extremes of the other two types referred to. It can be arranged to strike a middle ground and thus in a measure embody the advantages of the other two without their disadvantages. Experience has fully demonstrated that the artificially heated house is not productive of the best results, and while the open front house is being experimented with, it is safe to bank on a house in which the fowls are not exposed, but yet can have plenty of fresh, pure air; not artificially heated, but still have warmth above that of the outside temperature.

In the matter of feeding, success depends on supplying the fowls with about the elements they will get during the natural laying and breeding season. This means green food in some form, grains, meat, grit, and shell and plenty of fresh, pure water that is above the freezing point. Stimulants and tonics as a regular diet are not wanted. They may be good to incite the egg-producing organs to activity, but are not productive of good results if continued for any length of time. Highly seasoned foods should also be avoided. Scratching should be induced to promote health, which can be done by scatter-

ing grain in litter. A warm mash once a day will perhaps hurry the fowls along in getting down to business, and a combination of mash and dry feed will probably produce the best results for the inexperienced. The mash must not be sloppy; it must be mixed stiff, at least so it will not be wet or doughy. A mash composed of equal parts of corn, oats, bran, middlings and clover meal to which is added beef scrap in about the proportion of 15 pounds of the scrap to 100 pounds of the mash, will produce good results. Feed this at noon with wheat or oats in the morning and corn at night, either whole or cracked. When the weather is cold liberal feeding is necessary for the fowls to keep up animal heat and produce eggs at the same time.—L. B. Gardner, in Commercial Poultry.

Shall We Exterminate the Skunk?

EDITOR KANSAS FARMER:—On account of the growing demand for poultry and its products, and in the effort to supply this demand, we must remove all enemies. Among these enemies one which is very troublesome is the skunk. Shall we destroy him, or protect the poultry and let him go free to multiply?

The argument in favor of his protection is that of his being a ravenous feeder of the May beetle, which is doing more harm than he. I notice that an organized effort is to be made in Illinois next year to fight the May beetle. I would like to learn if the sweet-scented skunk is to be allowed to help.

I would like to hear from some of our entomologists. The protection that should be provided for poultry against other enemies of similar nature will also answer for the skunk. He is most troublesome when the ground is covered with snow. H. L. FERRIS, Osage County.

Farm Notes.

N. J. SHEPHERD, ELDON, MO.

Rough treatment invariably makes a mean dispositioned horse.

Hereditary excellence is what gives one breed superiority over another.

When a horse has frequent attacks of colic, it indicates chronic indigestion.

The offspring of immature, undeveloped animals is inferior to that of mature, full-grown parents.

Well-bred stock and good feeding are requisites in obtaining the greatest profit in stock-raising.

Young and growing animals require a food which will make bone and muscle rather than fat.

That man is miserable, and his farming unprofitable, whose work is never done at the right time.

In breeding, the tendency to transmit a defect is greater than the tendency to transmit a good trait.

Next in importance to knowing what to do in any business is knowing what to avoid doing.

Where a crop of clover has been plowed under, the soil is not only much richer but renovated.

A wise rotation of crops is important and is one of the means of preserving the fertility of the soil.

Cut feed is less liable to be eaten rapidly than whole grain, and dry meal than that which has been wet.

Defects, either constitutional or moral, do not show themselves, as a rule, until an animal has reached full physical and mental development.

There is no kind of produce grown upon the farm of which it may not be said the nearer the market the smaller the losses.

The food of all animals should be sufficiently good to mature and make them ready for market at an early age and in the highest condition.

No animal should be kept especially for breeding purposes, which has not individual excellence to recommend it, any longer than is necessary to get rid of it.

The subject of utilizing all the products of the farm is of vital interest. The farmer who has the least waste usually has the most profit.

Barnyard manure leaves a quantity of humus or vegetable matter in the soil which benefits by its mechanical action, loosening the soil and making it mellow.

A plentiful supply of dry bedding not only makes it more comfortable for the animal to lie down, but adds to its warmth and in every sense increases its comfort.

Wheat bran is not only a food rich in bone and muscle-forming material, but is a good medicine for the bowels, and more or less can be used to an advantage all through the winter.

Nobility lies in the mind, not in the blood.



is the one which contributes 150 eggs or more in a year, toward the family grocery bill. The sure way to have such hens, eggs in abundance, and a lot of ready cash, is to give a little of

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with the morning feed every day in the year. Dr. Hess Poultry Pan-a-ce-a is a tonic, the sole purpose and action of which, is to assist nature in the performance of necessary functions. It aids digestion, prevents disease, and sends the proper proportion of each food element to the organ most in need. It also contains germicides which destroy bacteria, the usual cause of poultry disease. Poultry Pan-a-ce-a is the prescription of Dr. Hess (M. D., D. V. S.), and is a guaranteed egg-producer. Endorsed by leading poultry associations in United States and Canada. Sold on a written guarantee, and costs but a penny a day for 30 fowls.

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5 lbs. 60c. } and extreme
12 lbs. \$1.25 } West and South.
25 lb. pack \$2.50

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Everybody's Incubator holds 125 eggs. Self regulator, needs no moisture, powerful double heater, egg tray and new removable sanitary nursery tray. Has everything high-priced hatcheries have. Four walls, packed, not affected by heat or cold. Cat. free. Gouverneur Incubator Co., 911 Main Street, Gouverneur, N. Y.

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Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatcheries made. GEO. H. STAHL, Quincy, Ill.

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We can furnish you bee and all kinds of bee-keepers' supplies cheaper than you can get elsewhere, and save you freight. Send for our catalogue with discount sheet for early orders. **Topoka Supply House** 7th and Quincy, Topoka, Kansas

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FOR SALE—Texas lands in Palmer and Bailey Counties, located three miles from Texico. Land is level, soil a dark loam from 2 to 6 feet deep, 2 to 20 ft. to water. Land will grow alfalfa, corn, wheat, oats, and bargain at the price, \$10 to \$15 per acre; \$5 per acre down, balance long time, easy terms, excursions first and third Tuesdays of each month.
160 acre farm, 7 roomed house, large barn, fine general improvements, all black alfalfa land, 10 miles from Wichita, \$50 per acre. This is a fine home.
80 acre farm, improved 50 acre bottom land, 12 miles from Wichita, \$40 per acre. Call on or write Osborn and Barnard, 229 East Douglas Ave., Wichita, Kans.

FOR SALE—350 acre stock farm in Lyon County, Handy to station. J. C. Hume, owner, route 3, Council Grove, Kans.

BRICK HOTEL—Centrally located, 28 rooms, furnished throughout, in good town in gas belt. Good opening. Price \$8,000. A. R. Ohmart, Augusta, Kans.

520 ACRES of good land, 300 acres good farm land, 20 acres fine alfalfa, the rest good pasture land; 4 miles from Lenora. Price for a short time \$6400. Good terms. O. L. Begester & Co., Lenora, Kans.

FOR SALE—220 acres in Sumner County, Kans., all river bottom, on the Cowskin River, three miles from Mulvane, Kans.; the best bargain in the state. Price, \$45.50 per acre. Call on or write C. S. Jagers & Co., Wellington, Kans.

BLUE STEM PASTURE FOR SALE—1800 acres of excellent grazing and farming land in solid body 10 miles from Madison, Greenwood County, Kansas, at \$12.50 per acre. J. A. Jackson (owner), Syracuse, Kans.

160 ACRES, 6-room house, cellar, barn, crib, good well, 80 acres in cultivation, balance in tame and prairie grass, 9 miles from Garnett, 2 miles to station. Price \$5600. Write for list. Iler & Mansfield, Garnett, Kans.

WE HAVE for sale one of the best ranch and farm propositions in Kansas. Write us for particulars. We are in the big four country. Corn, cattle, hogs and alfalfa. J. C. Hoyt, Eldorado, Kans.

WRITE W. J. O'CONNOR, Eureka Springs, Ark., for fruit and mineral lands in Northwest Arkansas.

CORN making 25 to 40 bushels per acre, wheat 15 to 25 and barley going as high as 45 bushels per acre, without irrigation. Land selling from \$8 to \$20 per acre; on the best of terms. Can locate you on a homestead or sell you good relinquishment. Excursion every first and third Tuesdays of each month. Address, Chas. P. Knight, Burlington, Colo.

FOR SALE—40 acres, creek bottom, good spring, 10 acres well set to alfalfa; also 80 acres, mostly creek bottom, all within 3 miles of Garfield Park. For particulars address "Pinehurst Farm," Route 4, Sta. A, Topeka, Kans.

FOR SALE—260 acre bottom land farm on Blue River, 25 acres alfalfa; good producing land; \$50 per acre. Address Box 181, Irving, Kans.

BUY LAND OF OWNER—Save commission. Stock and poultry farm for sale on Hickory Creek, Butler County, Kans. Address Benj. Mayfield, Latham, Kans.

FOR SALE—Fruit lands, farms and timber. Stock do well in this section. German truck farmers can make big money. I can loan your money on good security. Campbell, P. O. Box 683, Van Buren, Ark.

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

FOR SALE AND EXCHANGE Merchandise and City Property, Kansas and Texas Lands. If you want any thing in this line write us. Quisenberry & Carlson, Marion, Kans.

FOR SALE—240 acres 2 1/2 miles from Glen Elder, Kans. Good six room house, stable, granary, well and windmill, well fenced and cross fenced, all smooth level land, 45 acres pasture. The best upland farm in this vicinity for sale at the price. Will sell 160 if desired. Price 240 acres, \$8,500. Reasonable terms. S. E. Hobart, Glen Elder, Kans.

FOR SALE—160 acre Eastern Kansas prairie farm, improvements nearly new, 1 1/2 miles from railroad, creamery, and school; rural delivery, telephone, 9 miles from the State or Baker Universities. Price, \$45 per acre. F. M. PIPEER, Route 10, Lawrence, Kans.

FOR SALE—Dairy Farm in Loudon County, Virginia. Between three and four hundred acres. Less than one and one-half hours' ride from Washington. Good railroad facilities. Outbuildings complete in every respect and in first-class condition. Good fencing. Large silo, filled for winter. Two dwellings on place for manager, etc. Good watering facilities with large storage tank. Excellent herd of cattle and well-equipped dairy. Good land and whole farm can be cultivated. Excellent opportunity to purchase first-class well-equipped dairy farm. M. V. Richards, Land & Industrial Agent, Washington, D. C.

MITCHELL COUNTY, KANSAS FARMS—Also thousands of acres of the choicest lands in the western counties. Soil perfect and smooth, at \$6.00 and up; 20 years resident on the ground. Special opportunity at this time in Rooks county, on line of new railroad now being built. A choice creek bottom farm, near town, at \$24.00. Write me your wants; I can produce the goods and at best prices. W. P. Curtis, Beloit, Kansas.

FOR SALE—Lands in Lyon County, Kans., and adjoining counties. Everything considered, this part of the state offers more and better inducements than any other part of the country. Farms from \$20 per acre up; grazing lands \$12.50 to \$18. Write me, stating about what you want. J. T. BURTON, Emporia, Kans.

Choice McPherson County Farms and smooth level wheat land along the Rock Island line in Southern Kansas. Prices right. Roy T. Glass, Canton, Kans.

FOR SALE Farms—Bargains; 500 farms, stock ranches, Kansas or Missouri. Before you buy, sell or exchange, write for my free lists. F. H. Humphrey, Fort Scott, Mo.

Torrence & Son, Emporia, Kansas
High-class bottom farm, 178 acres, one-half mile from city limits, \$10,000 worth good improvements, 80 acres alfalfa, cuts 4 crops of 1 1/2 tons per acre; balance corn and wheat, price, \$100 per acre. Other farms of all kinds, from \$20 up.

Jewell County Morris & Woolsey
Quarter section of good land at \$20 per acre; it is a bargain. Write for full particulars.

A CORN AND ALFALFA FARM.
FOR SALE—One of the richest improved farms on Prairie Dog Creek. Soil is black loam that yields big crops every year. This year an average of 60 bushels of corn, about thirty acres in pasture and timber, 18 acres in alfalfa, balance corn land. Good house and barn and other farm buildings. On account of change of business the owner desires to sell soon. Address
M. E. BEALL, Woodruff, Kans.

LOOK AT THIS AND THINK
Where is Dickinson County? It is in Central Kansas. Look at its wealth, prosperity, best of people, fine climate, and the finest dirt out of doors. Come and look at our crops and judge for yourself. We have 1600 acres of land, all fenced, abundance of water, 2 miles from town; this will make a fine stock farm and is dirt cheap. We have two sections of fine smooth grass land, cheap as dirt. We have 80 acres improved land for \$3600. Try us for anything you want. HULL BROS., Hope, Kans.

Homes in Eastern Kansas
Prices \$25 to \$50 per acre. Corn, wheat, alfalfa, timothy, clover and blue grass. Will pay ten per cent on investment. 160 acres five miles from county seat. 6-room house, fair repair, stable; lies fine, no rough land; price \$40 per acre. Owner will take rental property to amount of \$2,000 on exchange; must be worth the money. Write. I have all kinds of bargains. Eighty miles from Kansas City.
W. K. Shaw & F. B. Graham, Garnett, Kan.

Arthur H. Goddard
OF ALTON, OSBORNE COUNTY, KANSAS,
offers the best proposition for homes that can be found anywhere. Write him for list and map.

Great Land Opening in Sacramento Valley, Cal.
Complete irrigation system in operation, water enough to irrigate 200,000 acres every day in the year. Free water right. Rich black sediment soil. Every known commercial fruit and vegetable yield enormous returns. California climate; perfect title; rail and steamboat transportation; ready markets. 10, 20 and 40 acre tracts from \$30 to \$100 an acre on buyer's own terms. Write for illustrated booklet. F. E. Robinson & Co., 217 Pacific Electric Bldg., Los Angeles, Cal.

We Are Sending Free
Pictures and descriptions of the Tree that grows Muskmelons, the Plum Tree that has fruit and no leaves, and other semi-tropical fruits. Also information about twelve million acres of rich, highly productive low cost farm, timber and grazing lands in the state of Sinaloa, Mexico. Address
SINALOA LAND COMPANY, Merchants Trust Building Department No. 1, Los Angeles, California

Norton County Alfalfa and Corn Farms
We sell Norton County lands where wheat, corn and alfalfa grow in abundance. Write us for list of farms and full particulars.
LOWE & BOWERS,
Almena, - - Kansas

ANSWER THIS.
Do you want to buy a farm?
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Do you want to buy western land?
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Do you want to trade for anything?
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Do you want to sell your property?
Write today.
The Duval Land Co., Abilene, Kan.

ALFALFA RANCH
480 acre ranch in Scott Co., Kansas; six miles from Healey, about 100 acres creek bottom land, 2 miles running water, stone house, barn and cattle sheds, good timber. An excellent alfalfa and stock ranch. Price, \$4,000. Apply to
Albert E. King, McPherson, Kans.

GET A HOME IN KANSAS--SOME CHEAP ONES

80 acres, good improvements, all cultivated, \$2200. 160 acres, 60 acres bottom, 5-room house, new barn, 4 acres timber, 40 acres wheat, \$5000. 330 acres, fair buildings, large orchard, some timber, 65 acres alfalfa, nearly all level bottom land, \$40 per acre. 480 acres, 125 acres of alfalfa and blue grass, nice house, large bank barn, orchard and nice shade trees, price \$15,000; part trade considered.
Write for lists to Minneapolis, Florence or Salina, Kans.

GARRISON & STUDEBAKER.

DICKINSON COUNTY, KANSAS FARMS FOR SALE

160 acres nice improved bottom farm, corn, wheat and alfalfa farms, price \$45 per acre. 320 acres bottom land, price \$50 per acre. 160 acre farm mostly bottom land, price \$35 per acre. 320 acre farm, price only \$25 per acre. If you want a farm, write what kind you want. I have several farms for sale, owned by non-resident people, also farms owned by estates that are for sale cheap.
JAMES SHEERAN, Solomon, Kans.

Some Alfalfa Land

in Trego County, Kansas for \$10 an acre. This is a snap and will not last. Be quick!
STEVENS & RUBY, Stockton, Kans.

BEST BARGAIN IN KANSAS.
1240 acre ranch in Central Western Kansas, well improved; 200 acres fine bottom, living water. Terms to suit buyer, only \$10 per acre. Write for other bargain. Arkansas Valley fruit lands a specialty. Western Realty Co., Hutchinson, Kans.

Wheat, Corn and Alfalfa Land
in Reno County; also unimproved Western lands. Write me.
J. M. Green, Room J, over 24 N. Main, Hutchinson, Kans.

DICKINSON CO. FARMS
I have a number of choice farms for sale. Am 35 years a resident in the county. Reference, any bank or business firm in Abilene. Write
W. D. NICHOLS, Agent, Abilene, Kans.

FOR SALE—1400 acre ranch in Eastern Dickinson County, 160 acres in cultivation, 1100 acres can be cultivated, balance partly rough, good pasture land. 400 acres bottom, 4-room house, barn, good well, running water. This ranch is worth \$20 per acre. For a limited time \$16.50. Your chance I. B. CASE & CO., Wichita, Kans.

LYON COUNTY FARMS
#240 acres, 8 miles from Olpe, 13 from Emporia, 1 1/2 miles to school, 90 acres in cultivation, 20 meadow, balance pasture, black limestone soil, bearing orchard, all kinds of fruit, splendid water, 7 room house, small barn, 22 acres alfalfa. Price, \$5,000.
HURLEY & JENNINGS, Emporia, Kans.

Irrigated Lands
For Sale, choice Irrigated Lands, all planted with alfalfa, \$35 an acre, on Installments, Kern County, California, the finest agricultural country in the state. For particulars write, California Buyers Union, Inc., 916 Broadway, Oakland Cal.

Farm For Sale.
One of the most productive farms in the Waka-rusa valley, five miles from Auburn, Shawnee Co.; 320 acres, 100 acres in pasture, about 20 in fine timber along the creek, balance in cultivation; in bottom and second bottom land. Fine house of eight rooms; large barn. Is a bargain at \$40 per acre. Apply to
C. W. MERRIAM,
Columbian Bldg., Topeka, Kans.

If Sold Before Christmas
\$8 per acre, finely improved farm, 1520 acres, Finney Co., small orchard. Buy this now.
H. C. BOWMAN,
42 Columbian Bldg., Topeka, Kans.

A SNAP.
160 acres 14 miles from Wichita; 80 acres in cultivation, 60 acres in pasture, 20 acres meadow; all fenced and cross-fenced; small hog pasture; 2 good wells, windmill and pump, which afford excellent water and plenty of it; 10 acres very fine orchard; corn crib, granary, barn with haymow, implement shed, cattle shed; good 6-room house, good cellar, cave; outbuildings; the yard is beautifully set to Bermuda grass; buildings are all well painted and in good repair, being nearly new; 4 1/2 miles from good town with 2 railroads. This is a bargain at \$32.50 per acre, and possession can be had immediately, if desired. The Nelson Real Estate & Immigration Co., 137 N. Main St., Wichita, Kans.

A Home in Missouri.
We have them for sale; fine, black land, which grows Corn, Wheat, Clover and Bluegrass on every acre, and located in Cass county, Mo., 35 to 40 miles south of Kansas City. Send for list or come to see us.
JOT. M. WILSON & SON,
Harrisonville, - - Missouri

WALNUT GROVE FARM ...FOR SALE...

Upon the advice of several specialists I am going to New Mexico for my health. On this account I must dispose of all my Kansas property, including the famous Walnut Grove farm, the most complete and profitable stock farm in Kansas. This includes 130 acres of the best land in Kansas, two miles from Emporia. Over 200 good O. I. C. hogs. All our Barred Plymouth Rocks, 36 Collies, 44 head of cows, 8 head of horses, the best farm house in the State. Also one small farm house, 2 large barns, 2 large cattle-sheds, one 300-foot hen house, one 250-foot broiler house, 20 brooder houses, capacity of plant, 4,000. The best hog house in the West, double-deck cement floors; many small hog houses. This is not an experiment, but a successful stock farm. Price, \$30,000 cash.
H. D. NUTTING, Emporia, Kans.

Grain and Dairy Farms
Around Topeka. Also Fruit farms and Stock farms for cattle, hogs and horses. Raise corn, wheat, oats, alfalfa, tame grasses. Unreasonably cheap; too cheap to last. Write for particulars.
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OPPOSITE POSTOFFICE. TOPEKA, KANS.

Watch Tacoma Grow!
Population, 1900, 37,714
Population, 1906, 85,000
Leading industrial center of Pacific Northwest. Five additional transcontinental railroads building to Tacoma. Chief distributing point for leading products of Washington; wheat, lumber, coal. Send stamps for descriptive literature to Secretary Chamber of Commerce and Board of Trade, Tacoma, Washington.

A Splendid section Farm.
No. 1099 is a fine farm of 640 acres; well improved; with good house of 7 rooms; good barn and granary; 800 acres in wheat, all good; 840 acres fenced; 2 good wells and windmills. Close to good market and in one of the best farming communities in Pawnee county. Price \$28.00 per acre. Come and see us and we will be pleased to show you this fine bargain.

Frizell & Ely
Larned, Kansas

"BARGAINS IN LAND"
320 acres well improved farm adjoining small town, all good soil, corn, wheat, and alfalfa land; 20 acres now in alfalfa; farm under fence, good pasture and meadow, fine water, good orchard; 8-room house, cattle barn, 32 by 100, horse barn, 18 by 25, granary and implement house 22 by 130, calf barn 16 by 24, several other buildings; price \$12,000; terms, one-half cash, balance on time.
200 acres farm, bottom land, mostly under cultivation; 6 miles from Lindsborg; good buildings; \$10,000.
240 acre well improved farm, 4 miles from good market; \$8,500.
160 acre farm on Smoky Hill River, 1 mile from Lindsborg; \$11,000.
160 acre farm, one-half bottom, one-half upland, buildings, fences; \$5,500.
160 acre farm, 5 miles from Lindsborg; \$3,800.
160 acre farm, 7 miles from Lindsborg; \$2,800.
80 acres farm, 3 1/2 miles from Lindsborg; \$3,800.
160 acres good land in Meade County; \$1,000.
160 acres all level land, in Logan County, will be sold cheap.
Other bargains to offer, write for list and prices.
JOSEPH A. BRANDT, Lindsborg, Kans.

The Blossom House
Kansas City, Mo.
Opposite Union Depot. Everything first class Cafe in connection. Cars for the Stock Yards, the up town business and residence parts of the city and for Kansas City, Kansas, pass the door. Solid comfort at moderate prices. A trial will please you.

The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of The Kansas Farmer. Kindly give the age, color, and sex of the animals, stating symptoms accurately, and 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 full name and should be addressed to the Veterinary Department of The Kansas Farmer, Topeka, Kansas, or to Dr. C. L. Barnes, Veterinary Department, Kansas State Agricultural College, Manhattan, Kansas.

If in addition to having the letter answered in The Kansas Farmer, an immediate answer is desired by mail, kindly enclose a 2-cent stamp. Write across top of letter: "To be answered in Kansas Farmer."

Sore Throat.—I have a bunch of calves that have a swelling on their throats and jaws and it lasts for a week or ten days. It doesn't seem to bother them very much; only causes a slight wheezing. They are in good flesh and doing well. Last night, at half-past ten o'clock, I was awakened by one giving short grunts or moans. I went to look and found one bloated so tight that it was almost bursting. It died within almost twenty minutes. When I last fed them I did not notice anything wrong and had not noticed any swelling on the throat of this calf. These calves are all graded white-face steers, weighing from 450 to 550 pounds. W. I. F.

Valley Falls, Kans.
 Answer.—I think that your animals have sore throat and would recommend that you use a stimulating liniment made of turpentine and lard. Use it over the throat and jaws daily until they begin to show signs of soreness, then withhold the medicine for a few days and begin again.

I think your animal died of not being able to belch gas.

Chronic Bronchitis.—I would like to know what ails my cattle. Have four sick and one has been ailing for six months. The others have just taken sick. They make a wheezing noise when they breathe and have a slight swelling on neck just back of jaw bone and under jaw. They run at nose and slobber. They are thin, but seem to have a good appetite. They are heifers and cows ranging in age from 2 to 5 years. B. S.

Stafford, Kans.
 Answer.—I think your animals have chronic bronchitis. If you will secure a stimulating liniment and rub on their necks down at the entrance of the chest until it blisters, I think you will have no trouble in stopping the lung symptoms. Then feed your heifers oil-meal and I believe that they will soon pick up in flesh.

Barb-Wire Cut.—What can I do to heal a barb-wire cut on my mare's hind leg? About two months ago she was cut in a barb-wire fence. The cut was a deep one and left the bone bare for a distance of two inches one way and three the other. I put air-slaked lime on it immediately. Then used carbolic acid and bluestone to cut of the lump of flesh that was growing out of the wound. It was cut half way between the fetlock joint and hock on the inside. I. N.

McAllister, Kans.
 Answer.—I think that if you will cut out the growth on your horse's leg, then sear with a hot iron and use powdered bluestone on the raw surface daily until you see that it has eaten out all of the superfluous tissue and return then to the air-slaked lime you have been using, you will have no further trouble.

Mare With Lame Joint.—I have a mare, 10 years old, that I traded for over four weeks ago. At the time I got her she was lame in hind leg and the pastern joint was swelled all around the joint and down to the hoof. I pared out the hoof and on the outside the hoof was not sound. She is also thin in flesh. I am feeding oats twice a day and she is running out in a good Bermuda grass pasture but does not improve any. She has a great deal of pain in the hock which is very hard. She lays down a great deal of the time. I would dislike to lose her as she is a good mare. Kindly advise me. Chandler, Fla. G. C.

Answer.—I would advise you to secure the best commercial foot-packing available and use it is a poultice on your animal's joint, changing it as often as necessary to keep it soft.

Mare Out of Condition.—I have a valuable mare, 9 years old, that raised four colts prior to last April. Just about twenty days before foaling the fifth time she began swelling at the udder. The swelling increased steadily for about twenty days and then she foaled. The colt was dead when born. The swelling became so large that it

extended to the breast and looked to be very heavy. It went down to about one-half the size it was at first. There was no milk in the udder. I have worked the mare all summer and she is in good flesh and seems to feel well. She has had no treatment at all for the ailment. Now she is in foal again. Any advice will be gratefully received. Sharon Springs, Kans. H. W. R.

Ans.—I would suggest that you use a stimulating liniment on your animal's enlargement, rubbing the affected part daily for a considerable length of time. After using this treatment for a week or ten days, write me and let me know as to her condition.

Mare with Foot Out.—I have a 3-year-old black mare that got her left hind foot cut on inside of the heel, just over hoof, about August 15. The cut healed but there is a fungus growth as large as a hen's egg, and it continues to grow. It does not lame her nor does it seem sore. I have done nothing for it yet. Will you please advise me? Dighton, Kans. H. T. H.

Answer.—I would suggest that you cut the growth off of your animal's leg, sear with a hot iron, and then use blue vitriol, powdered, on the growth until it is entirely healed. Grease the skin around the sore but do not put any grease in the sore.

Colt Knuckles Over.—My 23-month-old colt knuckles over on the stifle. The muscles on outside seem stronger than on the inside. She is a little lame and has been for ten months. Have blistered with biniodide of mercury. Would some kind of a shoe help any? Can she be cured or not? N. Y. New Mayville, Pa.

Ans.—I would use a fly blister right over the stifle joint every three weeks until you have given the animal at least four applications. Use a high toe on the affected foot.

Lame Mare.—I have a heavy roan mare, 9 years old, that is lame in left fore foot or leg. When she gets up mornings she is stiff and does not bear much weight on left foot; looks as though she tried to put most of her weight on hind legs. Both fore feet are dry and hard. On the inside of the left foot, extending an inch or two above the edge of the hair, there is an enlargement that feels like bone. I can find no tender place anywhere. It is difficult for her to step over anything very high. She doesn't show lameness much after working, but is worse after she cools off. What is the matter with her? P. S. Oldtown, N. C.

Ans.—I think the horse's feet are too dry for one thing and would advise packing them in moist blue clay every night or some commercial foot-packing that is on the market. You can hold the packing in the foot by putting it in and covering with a piece of gunny-sack the size of the shoe. Repeat this every evening until the parts are soft.

Cow with Brain Trouble—Ticks in Cattle's Ears.—I have a yearling heifer that is ailing. I have been unable to find any one that has ever seen anything like her before. The first time I noticed anything wrong was when she stopped following the herd. At first I thought she had lost her eye sight, but I soon saw that she could see. She does not seem to have any control of herself and walks in a circle all the time, always going to the right. She runs into the fences or water-tank or anything she comes to, but does not get shaky and nervous like a locoed cow. She hears well and has not fallen off in flesh very much. It has been about six weeks ago that I first noticed that she was ailing. I have not done anything for her, but put her in the feed yard. Her main feed is alfalfa. Before she took sick she was running in a buffalo-grass pasture and was doing well and was fat.

I had a 7-year-old mare that was very much the same a year ago last spring. She got so bad that we had to quit working her. She circled to right the same as the heifer. She has raised two colts since, but is not just right yet. She keeps in fair order and seems to get worse when we work her, so we do not work her to amount to anything. Kindly give remedy for ticks in cattle's ears. O. Y. Utica, Kans.

Ans.—I think your cow has brain trouble, but I am unable to state the cause exactly. We are sending you a press bulletin on *Astrongylus Armatus* that may give you some light on the subject of your mare and possibly a cure. For the ticks in your animals' ears, use equal parts of chloroform and castor-oil.

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not uncommon to see a fine-looking horse with poor feet. In the majority of cases the faulty feet are due to lack of care.

The sensitive part of the foot is quite frequently injured during shoeing by misdirected nails, the nail penetrating the part of the foot commonly known as the quick. The degree of injury to the animal will depend upon the depth the nail has been driven. The course of these injuries will depend largely upon the amount of infection that may take place. If the nail be immediately

withdrawn and the opening disinfected with a hot iron or closed by tar or rosin, there are usually no ill effects. On the other hand, if the opening into the foot be left without taking the above precautions, inflammation rapidly progresses and the animal is generally very lame. Should the nail be driven into the foot so deeply as to reach and penetrate the coffin bone, then serious results follow. The bone becomes diseased and breaks down into pus.

It is usually not difficult to determine

the cause of lameness in the case of picked-up nails. In all cases there is the history of the horse being recently shod. Also upon examination of the foot, the injured side shows extreme tenderness. A nail that splits in the foot while being driven may do great damage. Stubs left in the foot sometimes misdirect nails, but they are usually found before the shoe is placed on the foot. Also pricks in shoeing may be due to badly formed feet or if the horse is very uneasy during shoeing.

In treating nail pricks the shoe is withdrawn, and if no pus has formed, the opening in the foot made by the misdirected nail is disinfected. Then the foot is put in a poultice of bran or preferably a good commercial foot-packing, similar to Denver mud. Should pus formation be well advanced, it may be necessary to thin the sole and possibly open the foot over the abscess cavity. Then peroxide of hydrogen used daily to remove the pus is very beneficial. After cleansing the foot, the cavity is packed with cotton saturated with a disinfectant and a flesh poultice applied to the foot.

Other diseases of the foot are wounds caused by picked-up nails, glass, sharp pieces of iron, bone, etc. The sole is generally sufficient to offer protection, but these foreign substances may enter through the frog. If the horny frog be injured no bad results follow, but if the nail or other foreign body penetrate beneath the non-sensitive frog, it causes severe pus formation. The foreign substances are invariably covered with rust or filth from the street, and are therefore sure of containing germs of infection. Not only may the horse suffer from a simple wound infection, but may also suffer and die from tetanus, commonly known as lockjaw. Nails have been known to be picked up and driven through the frog into the coffin bone. The position of the nail or foreign material will determine the severity of the injury. If the wound is in the center of the frog, directly over the coffin and navicular bone, the injury is very serious on account of the foreign material opening the sheath of the tendon or possibly implicating the joint. If there is severe lameness and a profuse discharge of pus mixed with synovia (joint water) when the cavity is opened, the condition is regarded as very grave.

The treatment for picked-up nails and foreign substances is to first remove them and then thin the sole around the place that is the seat of the injury. If possible, open the abscess cavity and irrigate with disinfectants the same as in pricks from shoeing. A poultice similar to the one used for nail pricks is often very beneficial in hastening a recovery.

Sweeney.

This disease is one of the most common affections of the horse. Its causes are, running against trees, jumping on to the manger or some other firm object, or possibly from being struck by some other horse on the shoulder, while ill-fitting collars are generally the most common cause. All of these causes tend to produce injury to the nerve supplying the muscles of the shoulder blade. The symptoms of the disease are readily noticed by wasting of the muscles of the shoulder blade. Also the movement of the affected leg is characteristic of the trouble, it being jerked away from the body and thrown forward in a circle. In the majority of cases of sweeney, it is not a very serious affection. The treatment consists of applying either medicine or some irritant to the muscles which causes stimulation of the paralyzed nerve. In the writer's practise it has been found that the placing of a seton beneath the skin over the wasted muscles is one of the most successful methods of treatment. A stimulating liniment or fly blister or even firing in points over the wasted muscle has proven very successful. It is always well to manipulate the skin covering the muscles of the shoulder and help nature in restoring them to their former usefulness. The patient usually improves more rapidly if used at moderate work with a breast collar. If a seton is used it should be changed every twenty-four hours until the seton has been in for four days and then it should be removed permanently. Then used a little carbollized vaseline over the openings made by the seton. If firing is resorted to, point firing should be deep and the punctures later filled with binoiodide of mercury and cantharides blister.

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Elopers are apt to learn that running away with a wife is easier than running away from one.

The error of one moment becomes the sorrow of a lifetime.

Many go out for wool, and come home shorn themselves.

Grain in Kansas City.

Receipts of wheat in Kansas City yesterday were 221 cars; Saturday's inspection were 81 cars. Prices were generally unchanged, though sales were made slowly, and some wheat remained unsold at the close. The sales were: Hard wheat—No. 2 hard, 1 car 73 1/2c, 2 cars 72c, 8 cars 71c, 3 cars 70 1/2c, 3 cars 70 1/4c, 13 cars 70c; No. 3 hard, 1 car 72 1/2c, 1 car 72c, 1 car 71 1/2c, 3 cars 71c, 1 car 70 1/2c, 1 car 70c, 1 car 69 1/2c, 4 cars 69c, 6 cars 68 1/2c, 1 car 68c, 1 car 67 1/2c; No. 4 hard, 1 car 69c, 1 car 68 1/2c, 3 cars 68c, 3 cars 67 1/2c, 4 cars 67c, 2 cars 66 1/2c, 10 cars 66c, 2 cars 65 1/2c, 7 cars 65c, 7 cars 64c; rejected hard, 2 cars 63c; no grade hard, 1 car live weevil 68 1/2c.

Soft Wheat—No. 1 red, 1 car 72 1/2c; No. 2 red, 3 cars 72 1/2c, nominally 72@73c; No. 3 red, 2 cars 71c, nominally 67 1/2@71c; No. 4 red, 1 car 67 1/2c, 1 car 67c, nominally 65@69c; rejected red, 1 car 62c; no grade red, 2 cars live weevil 65c, 1 car live weevil 61c.

Mixed Wheat—No. 2, 1 car 70c; No. 4, 1 car 68 1/2c. Spring Wheat—No. 2, 1 car white 68c; rejected spring, 1 car 62c. Durum Wheat—No. 2, 2 cars 65 1/2c; No. 4, 1 car 64c.

Receipts of corn were 117 cars; Saturday's inspections were 61 cars. Prices were irregular, 1/4c lower to 1/4c higher. The sales were: No. 2 white, 2 cars 38 1/2c; No. 3 white, 4 cars 38 1/2c, 9 cars 38 1/4c; No. 4 white, 1 car 37 1/2c, 38 1/4c; No. 3 mixed, 5 cars 38c, 15 cars 3 cars 37c; No. 2 mixed, nominally 38@37 1/2c; No. 4 mixed, 1 car 37 1/2c, 3 cars 37c, 1 car 36 1/2c; No. 3 yellow, 5 cars 38 1/2c; No. 4 yellow, 1 car 38c, 1 car 37 1/2c, 5 cars 37 1/4c.

Receipts of oats were 24 cars; Saturday's inspections were 11 cars. Prices were unchanged. The sales were: No. 2 white, 3 cars 34 1/2c; No. 3 white, 4 cars 34 1/2c, 1 car 34c, 1 car 33 1/2c, 5 cars color 33 1/2c; No. 2 mixed, 1 car red 35 1/2c, nominally 33@33 1/2c; No. 3 mixed, nominally 32 1/2@33 1/4c.

Barley was quoted 42 1/2@44c; rye, 63@65c; flaxseed, \$1.07@1.09; kafir-corn, 73@78c per cwt.; bran, 90@92c per cwt.; shorts, 92@94c per cwt.; corn-chop, 76@79c per cwt.; millet-seed, 75@95c per cwt.; clover-seed, \$8@11.

Kansas City Live-Stock Market.

Kansas City, Mo., December 10, 1906. Since the middle of last week the cattle market has had a healthier tone, and to-day there is an advance of 5@15c. This week promises to cattle-shippers a return to the satisfactory conditions of two weeks ago when strong markets were the rule, which was interrupted by the rather listless trade immediately before and following Thanksgiving. The run is 12,000 head to-day, containing a good share of Colorado and Western cattle, also some native Christmas steers, two full loads of the latter at \$6.65, and odd head at \$7. Short-fed steers have not graded up very good so far, and some disappointment to shippers has been noted, but the longer period of feeding each week will produce fewer complaints. Prices range from \$4.25@5.75, while Western grass cattle are selling at \$3.40@4.50. The cow market has been adjusting itself to the changed character of the offerings, grass stuff generally of inferior quality and selling lower, at \$2.25@3.25, except good Colorado cows which ranged up to \$3.75, fed cows up to \$4.25, heifers reaching \$5.25, with bulk of heifers at \$3@4.75. Veal calves are scarce, best ones \$5.75@6.25, heavy calves \$3@4, bulls \$2.25@3.85. The Colorado stock-ers and feeders are best quality of the season and are bringing the highest prices they have yet reached at \$3.75@4.50 for feeders, stockers \$3@4.25. The supply in the quarantine division is small and of inferior quality generally. Hogs have shown great strength since a week ago, with the exception of one day, Saturday. The market is

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WANTED—A car load of high-grade Shorthorn heifers coming twos. Write giving weights and price to Hennessey Bros., Blaine, Kans.

FOR SALE—5 registered Holstein heifers and bulls, 6 registered Jersey cows and heifers and bull, 10 grade Jersey-Holstein heifers. Burton & Burton, Topeka, Kans.

FOR SALE—Bull calves from prize-winning Holstein cows. Good ones and cheap to early buyers. Hughes & Jones, Route 2, Topeka, Kans.

WANTED TO BUY—One bull, and four to six cows of heavy milking breed. Write to Thomas W. Houston, Leavenworth, Kans.

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5@7 1/2c higher to-day, supply 8,000 head, and predictions are in favor of still higher prices this week, with the usual number of confident assertions that the price will reach \$7 in thirty days. Receipts are 20 per cent short of a year ago at Kansas City, and other points also exhibit decreases, and all the conditions favor strong markets.

Supply of sheep and lambs to-day 5,000 head, market strong. Prices are a little higher than a week ago, as the supply last week was moderate. Fed stuff makes up the most of the run, quality only medium, nothing choice here to-day, lambs selling at \$6.75@

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FOR SALE OR EXCHANGE FOR STOCK—One 8-year-old steel gray jack, 15 1/2 tall. Sure colts to show. H. N. Hodges, Gardner, Kans.

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FOR SALE—30 Blue Ribbon Black Langshan cockerels. They are as good as the best. Satisfaction guaranteed. F. B. Speelman, Beloit, Kans.

Stray List

Week Ending December 6.

Cloud County—E. J. Alexander, County Clerk. HORSE—Taken up by Joe Thoman in Aurora tp., November 18, 1906, one chestnut sorrel horse, 5 feet high, "26" on left shoulder, white star in forehead, foretop shingled, wire cut on left fore foot.

Week Ending December 13.

Sherman County—Wilson Peters, Clerk. HORSE—Taken up November 24, 1906, by V. B. McClure, in McPherson tp., one black horse, no marks or brands; valued at \$80.

HORSE—Taken up, April 21, 1906, by I. N. Golings in Smoky tp., one brown horse, right front foot cricked and ears cropped, valued at \$25.

MULE—Taken up, September 1, 1906, by S. D. Sull in Washington tp., one brown mule, wire cut on right hind foot, valued at \$40.

Comanche County—Jay T. Botts, County Clerk. SOW AND PIGS—Taken up, October 15, 1906, by Oliver Guss in Avilla tp., one black sow and five pigs; sow weighs about 175 lbs., pigs weigh about 20 lbs., about one month old; sow has legs white and white spot on shoulders; one of the pigs same color as sow, others black; v. lued at \$20.

Pottawatomie County. HEIFER—Taken up, in August, 1906, by Carl A. Peterson, in Blue Valley tp., one white-face 2 year-old heifer, "2" cut in left ear.

7.50, yearlings \$5.75@6.50, wethers \$5@5.75, ewes \$4.50@5.35. Very little stock or feeding stuff is available.

J. A. RICKART.

South St. Joseph Live-Stock Market. South St. Joseph, Mo., Dec. 10, 1906.

The receipts of cattle were very moderate to-day at all points, but it is a time now when moderate receipts will hardly stimulate much improvement in the market as it is right here at the close of the year and the coming on of the holiday week. In the local trade the offerings of steers were very meager and included but a couple of bunches good enough to sell above \$5.25. Some very good 1,200- to 1,300-pound steers sold at \$5.55@5.90, but the bulk were grades that sell below \$5 and were steady to firm at \$4.40@4.65 for pretty decent killers. Market for cows and heifers was active at about steady prices with quality running about medium. A very few extra qualities showed some strength, but these were an exception. Cannors, bulls, and calves sold steady. Very few stock cattle were carried over Sunday in the hands of local dealers and fresh supplies of the day were extremely light. Buyers were on the look for good classes of feeders, and moderately liberal receipts of these kind would perhaps find a good market during the week. There is no regular call, however, for light and common qualities.

The hog market has reacted very promptly from the little setback received on the closing day of last week. Receipts to-day were moderate at all points and while there was a small business on the first rounds at not better than steady prices, the bulk of local trading was at a 10c advance over last week's close, at which the supply was readily absorbed. Prices ranged largely at \$6.30@6.35, but with a fair showing of nice butcher qualities selling up to \$6.42 1/2. There is nothing in the situation that will get hogs enough to seriously break prices in the near future.

The small run of sheep and lambs arriving on the opening day of the week at this point was made up of common drive-ins and did not furnish a market criterion. There is a good tone to the market for well-fattened sheep and lambs and it looks safe to let them come at any time. WARRICK.

SWINE.

FOR SALE—Harmonizer and Hot Shot Poland-China gilts. Bred to a son of Leon Calhoun's great herd boar. Also an April boar by Hot Shot out of a Harmonizer gilt. Good enough to head any herd. James B. Zinn, Box 348, Topeka, Kans.

WE NOW HAVE forty choice bred gilts to pick from, bred to Crimson Challenger, he by Crimson Wonder 3755; Missouri's Wonder King, he by Missouri's Pride; Oom Paul 8d, he by Takoma Paul. Have males by Crimson Wonder for sale. Mr. and Mrs. Henry Schrader, Wauneta, Kans.

FOR SALE—Duroo-Jerseys. Good color, fine blood, low prices. Burton & Burton, Topeka, Kans.

FOR SALE—Thoroughbred Duroo-Jersey pigs, boars large enough for service. Prices right. I. W. Poulton, Medora, Kans.

SHEEP.

FOR SALE—Two pure-bred Cotswold ram lambs. Address W. Guy McCandless, Cottonwood Falls, Kans.

SCOTCH COLLIES.

COLLIES—More of those richly bred pups, ready to ship; sired by a grandson of Ormskirik Galopin. From \$4 to \$7. A. F. Chacey, North Topeka, Kans.

MISCELLANEOUS.

WANTED TO SELL—Old established weekly newspaper and job office in one of the best Southern Kansas gas towns; cheap at \$1500. Address E. E. W. care Kansas Farmer.

WANTED—Energetic man to sell rubber boots and shoes on commission to country merchants in January, February, March and April. Will give as many counties around your home as you can visit in this time. A man with horse and buggy can make good pay. Samples furnished free. Address, giving particulars, Shoe Salesman, care Kansas Farmer.

PURE KANSAS SORGHUM—A good grade at following prices: 10 gallon kegs, \$4.20; 5 gallon kegs, \$2.20. F. O. B. cars at Tyro, Kans., G. R. Wheeler.

WANTED—Gentleman or lady with good reference, to travel by rail or with rig for a firm of \$250,000 capital. Salary \$1,472 per year and expenses; salary paid weekly and expenses advanced. Address, with stamp, Jos. A. Alexander, Topeka, Kans.

WANTED—Men to learn barber trade. Few weeks completes. Many advantages only obtainable here. Wages Saturday, tools given. Positions waiting our diploma holders. Shops furnished new on easy payments. Write today for free catalogue. Moler System of Barber Colleges, Kansas City, Mo.

FOR SALE OR TRADE—Choice alfalfa farms, Clydesdale Horses, Shorthorn and Jersey Cattle, Poland-China, Duroo-Jersey and O. I. C. Hogs, 40 varieties of poultry and pet stock. Pure seeds and nursery stocks. Full particulars in catalogue, 10c brings it. Merchandise wanted; what have you to trade. A. Madsen & Sons, Atwood, Kans.

WANTED—Ladies to work on piece work, \$3 per dozen. All material furnished. No canvassing; steady work. Stamped envelope. Best Mfg. Co., Champlain Bldg., Chicago, Ill.

3,000 FERRETS—Some yearlings, especially trained for rats. Book and circular free. Levi Farnsworth, New London, Ohio.

HONEY—8 cents per pound. Write A. S. Parson, 514 S. Main St., Rocky Ford, Colo.

WANTED—Non-union moulders. Call or write Topeka Foundry, 318 Jackson St., Topeka, Kans.

WANTED—A good second-hand grain separator. Dr. Barker, Chanute, Kans.

PUBLICATION NOTICE.

In the District Court of Shawnee County, Kans.

George Wind, Plaintiff, vs. Victoria Gonvil Smith, Mrs. Rufus Maxon, C. J. Richards, Geo. W. Ludington, R. E. Conwell, Enoch Chase, and Joseph Midgagh, Defendants.

If the above named defendants are alive they will take notice that they have been sued in said court by said plaintiff in the above entitled action. And if they are dead their heirs, devisees, administrators, executors, and trustees will take notice that they have been sued in said court in said action by said plaintiff to quiet his title to the following described land in Shawnee County, Kansas, to-wit:

Beginning 29 13-100 chains south of the northwest corner of Reserve No. Six (6) of the Kaw Half Breed Indian Lands; thence East to Tick Creek; thence Southeast along the center of Tick Creek to the center of Indian Creek; thence West to Indian Creek to the west line of said Reserve and thence north 8 77-100 chains to the place of beginning. And Lot One (1) in Hillyer's subdivision of a part of said Reserve, as against them and to bar them from ever setting up any claim or title to said land and they are further notified that they must answer the petition filed by plaintiff in said action on or before the 19th day of January, 1907, or the said petition will be taken as true and judgment will be rendered against them accordingly.

[Seal] M. T. CAMPBELL, Attorney for Plaintiff. Attest: I. S. CURTIS, Clerk.

Breeders Shorthorn Sale

State Fair Grounds, Topeka, Kans., Jan. 9, 1907,

DURING THE

Kansas Improved Stock Breeders Association Meeting

40 Head of Choice Breeding Cattle.

Contributed by the well-known breeders, C. W. Merriam, Topeka; H. W. McAfee, Topeka; H. E. Huber, Meriden; Col. Ed. Green, Florence; A. C. Rait, Junction City; A. F. Huse, Manhattan; J. W. Ferguson, Topeka; M. C. Vansell, Muscotah. The cattle are good ones and carry the blood of Lord Mayor 112727, Violet Prince 145647, Prince Consort 187008, Mayor Valentine 224391, Imp. Prince of Perth 153879, Duke of Scott 159579, Mayor 129229, Valentine Stone 207939, and others equally good. Several pure Scotch bulls will be included in the sale, Butterfly, Phyllis, and other choice families.

Special low rates on all railroads. Terms of sale are cash except where otherwise arranged with owner.

I. D. GRAHAM, Manager Topeka, Kansas.

CHRISTMAS AND NEW YEARS



HOLIDAY RATES

Tickets on sale (without regard to distance limit) to all points on the A. T. & S. F. Ry., also to points on connecting lines in the following states: Arkansas, Colorado, Indian Territory, Kansas, Minnesota, Missouri, Nebraska, New Mexico, North Dakota, Oklahoma, Texas Wisconsin, at rate of one and one third fare for the round trip. Tickets on sale December 20, 21, 22, 23, 24, 28, 29, 30, 31 and January 1. Final limit returning, January 7, 1907.

T. L. King, Agt. Topeka.

DUROC - JERSEYS

Woodlawn

We have just 10 head of spring boars left for sale and we are going to make very LOW prices for the next 30 days to close them out. They are sired by Fancy Chief 24923, the great show boar FANCY TOPNOTCHER 49538, first in class at Kansas State Fair and by PRINCE WONDER 42455. They have the size and are sure to suit you.

JNO. W. JONES & SON,

DUROC - JERSEYS

Home of The Famous Fancy Herd Registered DUROC-JERSEY SWINE

Concordia, Kansas

Nemaha Valley Herd Durocs and Polled Durhams

70 good strong pigs by such boars as Valley Chief 15211, Kant-Be-Beat, Wont Be Beat Again, Lewiston Top Notcher and others. If you need a boar write me. I also offer my herd bull GLOSTER CHIEF 4th, 2d by Gloster Chief 2d, for sale. This is a deep red fellow with plenty of size and finish. Young stock for sale at all time. Bred sow sale February 6, 1907.

D. M. TROTT Abilene, Kans., famous Duroc Jerseys and 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. Spring pigs either sex. Prices reasonable. E. S. COWEE, Route 2, Scranton, Kans.

SUNFLOWER HERD OF DUROC-JERSEYS - Fall and spring pigs for sale, of both sexes, sired by Klondyke Prince, an 800 pound hog. Samuel Boston, Prop., Smith Center, Kans.

Gold Standard Herd. 75 head of pedigreed Duroc-Jersey spring pigs for sale cheap. Chas. Dorr, Route 6, Osage City, Ks. Mention this paper.

10 Duroc-Jersey Boars for Sale The best of breeding. Fine and large pigs farrowed in March and early April. I can please you. Write me now. Geo. F. Dersch, Cook, Neb.

Pigs Shipped on Approval. 200 head of Durocs, all ages, representing the blood of Combination, Valley Chief, and a son of Kant-Be-Beat. T. L. LIVINGSTON, Burchard, Neb.

Ireland's Durocs Herd headed by Young Model 38111, a son of Higgins 2251. Pigs for sale from such sows as Antelope 97668, a granddaughter of Ohio Chief, Fancy Xenia 47490 and Lela H. 87036. Z. Ireland, Chester, Neb.

Registered Duroc-Jersey Swine Up-to-date breeding, choice individuals. Farrowed from February 27 up to October 1. Either sex, pairs or trios, not a-kn, at \$12.50, \$15, \$20 and \$25 per head, for 60 days only. G. E. NEWTON, Whiting, Kans., (Successor to Newton Bros.)

Orchard Hill Herd of Duroc-Jerseys Fall and spring males, and the gilts bred and to be bred, for sale. Blood lines: Top Notcher, Ohio Chief, Improver 2d and the Wonder family. R. F. NORTON & SON, Clay Center, Kans.

Duroc-Jerseys Big, blocky, handsome boars of March and April farrow. Write Buchanan Stock Farm, Sedalia, Mo.

Egypt Valley Durocs. Herd headed by Egypt Lad 34023. Stock always for sale. Choice fall boars and gilts, reasonable. Also six fine gilts, bred to Lora's Lad, to farrow in April; will also sell some tried sows. Write for prices and particulars. H. W. STEINMEYER, Volland, Kans.

STAADT'S DUROCS FOR SALE - Oriole 49173 by the great Orion 5293, dam Maude's Choice 98178 by Young John 22575, guaranteed a sure breeder and all right. Also good spring boars of the choicest breeding, and individuality at reasonable prices. J. F. Staadt, Ottawa, Kas.

Peerless Stock Farm DUROC-JERSEY HOGS Correspondence solicited. Inspection invited. H. G. Sollenbarger, Prop., Woodston, Kans.

Fairview Herds Durocs and Red Polled My herd bull, Expansion, for sale. No swine for sale now. Spring sale, February 13, 1907. J. B. Davis, Fairview, Brown County, Kans.

Eureka Manor Herd Duroc-Jerseys Choice breeding stock for all. For the breeder, the stockman and the farmer. Prices the lowest, quality and breeding the best. Herd headed by EUREKA Tie-Top 43841, sired by the great World's Fair grand champion, Tip-Top Notcher 20729; and PERICLES 27247, by Josephus 19125, the Kansas State Fair grand champion. Write your wants or call and inspect my herd. Address J. F. ENSOR, Olathe, Kans.

Oak Grove Herd of Durocs

Herd headed by Choice Goods H. 36471 by Hunt's Model, and Corrector's Model 34381. Forty fine spring pigs for sale from such sons as Labaugh's Choice 46682, Oak Grove Queen 12004 and Miss May 112006, a granddaughter of Improver II. If you want good ones, write me. SHERMAN REEDY, Hanover, Kans.

WILSONS' DUROCS

I have for sale a few gilts and boars sired by Ohio Chief. I also have a number of fine boars carrying the leading blood of the Duroc breed. Can please you in something good.

R. L. Wilson, Chester, Nebraska

RIVERSIDE HERD DUROC-JERSEYS Hogs for sale. Yearling sows and gilts and young boars: Address Crow Bros., 200 East Osborn St., Hutchinson, Kans.

PIONEER HERD OF DUROC-JERSEY SWINE

Herd headed by Red Chief, 1st prize winner at Hutchinson, assisted by Chief Grand by Ohio Chief. Sows of equal merit. 15 large growthy males and 25 sows, some bred. To these males I breed big boned, quick feeding females. Describe what you want and write for prices. N. B. SAWYER, Cherryvale, Kans.

Lone Star Durocs

We will have over 50 fine boars for sale this fall, representing the best blood lines in the country. Orders booked after July 1, and shipments will be made to responsible parties on approval.

J. L. WILLIAMS, Bellaire, Kansas

Ward Brothers Republic, Kans.

Spring Durocs for sale sired by Model H 37967, the best son of the great Higgins Model; also Shakespeare 3d, and other noted sires; also some fall boars that will be a credit to any herd. Write for prices.

O-Ta-Top-Farm Durocs

Herd composed of best blood in the west. Headed by O-Ta-Top Notcher, out of Tip-Top Notcher who sold for \$5,000. Spring pigs for sale price \$15 to \$25.

John W. Taylor, Edwardsville, Kansas

Vick's DUROCS are bred for usefulness. Two yearling herd headers for sale, sired by Improver II, dams Kansas Belle, by Morton's Prince 16797, two yearlings sired by Medcoe, dams Prairie Queen 106772, also spring pigs by Vick's Improver 47858, Red Top 32241, Fancy Chief 24923 and other noted sires. Correspondence invited. Visitors coming to Junction City and phoning me will be called for.

W. L. Vick, Junction City, Kansas

COUNTY LINE HERD OF DUROCS.

Herd headed by Smith Wonder 46985. A fine lot of boars and gilts for sale, carrying the blood of Kansas Wonder 20753, Jumbo Jr. 28015, Orion 5293, 2d Climax 23361, Joe 29271, Oom Paul 2d 17679 and Second Surprise 20269. Phone from Silver Lake.

O. N. Wilson, Silver Lake, Kans.

Duroc's from the Highland Herd carry the blood of the leading strains of the country. 31 head of fine spring males sired by Ohio Major 33337, Red Raven 47837. This stuff is the cream of my herd and I am pricing it right. Grant Chapin, Greene, Kans.

POLAND-CHINAS

ELM GLEN FARM POLAND-CHINAS. Size, breed, character and fashionable breeding. Stock all ages for sale. WM. KNOX, South Haven, Kans.

CEDAR GROVE HERD

Of pure-bred POLAND-CHINA HOGS. We will have some bargains this season to offer the public. J. A. Hebrew, Stockton, Kans. Mention Kansas Farmer when you write.

A. J. Hinckley, Milo, Kan. Breeder of fashionable Poland-Chinas Will have some fine boars for sale this fall. Write for breeding and prices. Mention Kansas Farmer when you write.

Dawley's Poland Chinas are a distinct type of their own. Herd headers for sale sired by E. L. 2d, Spellbinder, Grand Chief, Sunflower Perfection, On and On, Keep on, Nonpareil and other noted sires. Prices moderate and satisfaction guaranteed.

Frank Dawley, Waldo, Kansas

POLAND-CHINAS

UNGLES' HOGGETTE

The great preventive and cure for HOG CHOLERA. Indorsed by more good breeder's than any other remedy. We also put out a Dip at \$1 per gallon, in 5 and 10 gallon cans. Freight prepaid. Guaranteed as good as any Dip on the market or money refunded. Address

UNGLES HOGGETT CO. Lincoln, Nebraska

Stalder's Poland-Chinas

I have pigs for sale from the leading strains of the country. Prices reasonable. Write for full particulars. O. W. Stalder, Salem, Neb.

A. and P. SCHMITZ, ALMA, KANS. Breeders of Poland-China Hogs. We have for sale at reasonable prices 10 gilts bred to Challenger 38349; also a boar pig by Compromise 88203. Write us for prices and full description.

East Creek Poland-Chinas Stylish Perfection 40313, sweepstakes boar at Nebraska State Fair, 1906, at head of herd. Bred sow sale February 13, 1906. H. B. Walters, Wayne, Kan.

The Useful Type of Poland-Chinas Herd headed by Model King 34830, by Mischief Maker. Growthy spring pigs for sale. E. D. Morris, Bern, Kansas

John Black, Barnard, Kas MY POLAND-CHINAS are the big prolific kind that the farmer likes to raise. Will have some fine boars for sale this fall. Write for prices. Mention the Kansas Farmer.

Elerbeck's POLAND-CHINAS are from the leading strains of the heavy type. Good boars and gilts for sale. Write for information. J. T. ELERBECK, Beatrice, Neb.

Square Deal Stock Farm Wm. D. Calder, Prop., Bancroft, Kans.

We have for sale pigs by Square Deal 36749, he by Highland Chief Jr., others by Calder's Chief 40896, grandson of Kansas Chief 23250.

Cedar Lawn Stock Farm

My herd is headed by the Great MAJOR M. 31527, by Bialne Trumseh 29388. We breed the big fellows with plenty of finish. Our sows are all heavy boned animals and producers of large litters. If you want to breed the large type, write us for prices on boars and gilts.

J. R. Triggs, Dawson, Neb.

Yukon Polands

Spring pigs for sale sired by the great boar Perfect Tecumseh 27989 S, and out of sows of equal breeding. Also a few choice ones by a son of Meddler. Write me for full particulars.

J. B. Myers, Canton, Kansas

Axline's POLAND-CHINAS

Best Breeding and Individuality. E. E. AXLINE, Oak Grove, Missouri.

JOHN BOLLIN, Route 5, Leavenworth, Kans.

Breeds and Sells Poland-Chinas Popular

The State and World's Fair winning boars Nemo L's Dude and The Picket in service. Bred sows and serviceable boars for sale.

Maple Valley Stock Farm

The grand breeder Mo. Chip 2d is at the head of my Poland-China herd. My foundation stock is the best that money can buy and I guarantee my stock. Have a few more sows and gilts bred for spring farrow at reasonable prices. Correspondence solicited and visitors always welcome.

C. P. BROWN, Route 2, Whiting, Kans.

Popular Poland-Chinas

Chief Perfection 2d and other fashionable blood lines. The Champion American Royal 1906 is our type, this sire is a half brother to a number we offer. Some excellent spring boars and gilts ready for buyers.

P. L. WARE & SON, Paola, Kansas

ON AND ON BOARS

Several choice boars for sale. One spring boar by On and On 61783, dam by Chief Perfection 2d 42555. One fall yearling grandson of Mo's Black Perfection. Dam 50 per cent Chief Perfection 2d, and others extra good. Also a few young Galloway bulls and several young Holstein bulls.

H. N. HOLDEMAN, MEADE, KANS.

Belleville Herd of Heavy-Boned Poland-Chinas

Headed by Grand Chief 34410, one of the good sons of Chief Tecumseh 3d. I have 100 spring pigs from this old fellow, the mothers are from Expansion-Mogul and other boars of such renown. Correspondence and inspection invited. Annual boar sale November 15.

W. H. Bullen, Belleville, Kansas

POLAND-CHINAS

Kansas Herd of Poland-Chinas has bred gilts and W. & C. Leghorn cockerels. F. P. Maguire, Hutchinson, Kans.

Buy a Money-Making Poland-China Pig

Nine sons of Tip Top Moneymaker 52501, grandsons of Tip Top Notcher, the great World's Fair champion, for sale at from \$15 to \$25 each. R. C. Williamson, Edwardsville, Kans.

Decatur County Herd of Poland-Chinas

Fall boars all sold; am now booking orders for March and April pigs; sixty head to select from also a choice lot of bred sows at farmer's prices. A square deal guaranteed. Write me your wants.

R. H. WEIR, Route 3, Oberlin, Kans.

Oak Grove POLAND-CHINAS...

Nemo L's Dude, prize-winner and sire of winners, and Sir Darkness out of Darkness and by Chief Perfection 2d in service. A few boars for sale.

GUS AARON, Route 5 - Leavenworth, Kans.

C. F. Hutchinson, Bellaire, Kansas Thirty Years a Breeder of Poland-China Swine

We raise the big fellows that farrow large litters. The kind that fills the pork barrel. Write us for list of our winnings at Nebraska and Kansas State Fairs. Our herd boar Bright Look weighs 1,000 pounds in show condition. Stock for sale. If you want the big kind write us.

Shady Lane Stock Farm.

The home of the western champion, Peerless Perfection 2d 38664. Poland-Chinas of fashionable breeding and individual merit for sale. Book orders now for sows bred to Peerless Perfection. There will not be enough to supply the demand and first in get them.

HARRY E. LUNT, Burden, Kans.

Choice Poland-Chinas AND POULTRY.

FOR SALE - Choice of an On and On or Predominator boar, good enough for herd header. Also several good sows, open or bred. Spring males of good breeding, large enough for service. Also S. C. B. Leghorn cockerels and Mammoth Bronze turkeys. Francis Long, Route 5, Madison, Kans.

POLLED DURHAMS

Polled Durhams FOR SALE

Nice, good bulls ranging from a few days to 14 months sired by Kansas Boy 2585. Write or come and see my stock.

D. C. VanNice, RICHLAND, KANSAS

Periodic Pains.

Dr. Miles' Anti-Pain Pills are a most remarkable remedy for the relief of periodic pains, backache, nervous or sick headache, or any of the distressing aches and pains that cause women so much suffering.

As pain is weakening, and leaves the system in an exhausted condition, it is wrong to suffer a moment longer than necessary, and you should take the Anti-Pain Pills on first indication of an attack.

If taken as directed you may have entire confidence in their effectiveness, as well as in the fact that they will leave no disagreeable after-effects.

They contain no morphine, opium, chloral, cocaine or other dangerous drugs.

"For a long time I have suffered greatly with spells of backache, that seem almost more than I can endure. These attacks come on every month, and last two or three days. I have never been able to get anything that would give me much relief until I began the use of Dr. Miles' Anti-Pain Pills, and they always relieve me in a short time. My sister, who suffers the same way, has used them with the same results."

Dr. Miles' Anti-Pain Pills are sold by your druggist, who will guarantee that the first package will benefit. If it fails he will return your money. 25 doses, 25 cents. Never sold in bulk. Miles Medical Co., Elkhart, Ind.