

# KANSAS FARMER

For the improvement  of the Farm and Home

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**M**AKING the most of the by-products of grain farming by keeping live stock is a profitable practice at all times. The adoption of this policy may easily make the difference between profit and loss in the business of farming. To carry it out successfully, the silo is almost a necessity. The primary purpose of the silo is to preserve the forage part of the crop. Every year much valuable feed goes to waste because it is not preserved in palatable form. In the poor years it is imperative that every ounce of nutrient material be saved for the stock.

The silo becomes a badge of agricultural prosperity in any community.

—G. C. Wheeler





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**I**T may sound rather strong to say that Avery Tractors are the only make having a standardized design, but the facts clearly prove it. Avery Tractors are the only make built in five sizes (a size for every size farm) all having exactly the same design. There is practically no other make of tractors where there are more than two sizes of the same design. Some companies building four or five sizes of tractors have as many different designs as they have sizes. Most companies building new sizes of tractors are building them of a different design from their former sizes, which is clear proof that their former design was not satisfactory and the best that can be said of any new design is that it is an experiment.

But when the Avery Company builds one size tractor and after thoroughly testing it out, builds another size, and then another, and then another, and then another, until it has five sizes all of exactly the same design, it is unquestionable proof of the success of that design.

This one fact, that Avery Tractors are the only make built in five sizes all of the same design and that Avery Tractors are being sold by the thousands every year, is proof in itself that you get a tractor with the right design when you get an Avery. Avery Tractors proved themselves to be

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You can get an Avery Tractor in any one of the following regular sizes—8-16, 12-25, 18-36, 25-50 or 40-80 H. P.—and a special smaller size tractor rated at 5-10 H. P. We also build and sell plows in sizes to fit all size tractors and threshers in any size to run with 8-16 to 40-80 H. P. Tractors.

There's a size Avery Tractor and Plow to fit every size farm and a size Avery Thresher to fit every size run.



5-10 H. P.



8-16 H. P.



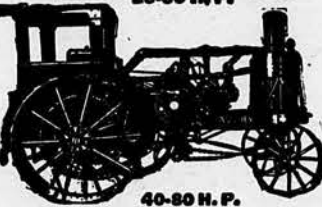
12-25 H. P.



18-36 H. P.



25-50 H. P.



40-80 H. P.

## You Get REAL Service After You Buy An Avery

The Company behind your tractor is a more important consideration to you than it is with any other machine. A tractor fills a most important place in your farm operations. You must be able to keep your tractor running when you need it.

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It has been put to the hardest tests known—Avery Tractors are the only make entered in every Winnipeg Contest and every important Plowing Demonstration in this country.

The Avery Company has its own Branch Houses located at convenient points where we carry large repair stocks and maintain a force of trained service men.

## Learn Latest Tractor Farming Facts

You will find real information about tractor farming and about tractor design and construction in the new 1917 Avery Catalog. Get ALL the facts. Write for a free copy and name of nearest Avery dealer.

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**Tractors and Plows—6 Sizes—Fit Any Size Farm**





# KANSAS FARMER

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## ABUNDANCE OF NITROGEN

Chemical analyses have shown that the soils of Kansas in continuous cultivation for forty years have lost from a fourth to a third of the nitrogen they contained when first broken. This loss of nitrogen is responsible for the steadily decreasing yields of our staple crops.

It might seem that there is no great reason for concern, since another third of the nitrogen could be removed and still leave the soil with enough nitrogen to produce crops for another forty years. The facts are, however, that in the first forty years of farming we have skimmed the cream from the soil. Those who take the second third must face steadily decreasing returns and the margin of profit will necessarily narrow. It cannot be assumed that all the plant food in the soil can be used. Long before the nitrogen is totally exhausted, or even before the second third could be used, yields would be so low as to be unprofitable.

Nitrogen is the most abundant element of plant food. Prof. C. O. Swanson, chemist at the Kansas Experiment Station, recently stated that the air over an acre contains nitrogen enough to produce fifty million bushels of corn. This element is practically inexhaustible and yet it is the element that is limiting crop production on those lands that have been farmed thirty or forty years.

Nature's method of getting the nitrogen needed for plant growth is through the leguminous plants. These plants can reach out and take in nitrogen from the air direct. So far as known, no other class of plants is able to do this. If a legume rotation had been steadily practiced through these forty years of cropping, the chemical analyses would not now show a third of the nitrogen gone from the soil. This use of the legume, with live stock to consume it, is the simple way to secure nitrogen, and every farmer can practice this means of keeping a supply of this element in his soil.

New and more rapid methods of securing nitrogen from the air are now being used. It is largely due to the fact that Germany has been able to secure nitrogen from the air, that she has not been conquered. Nitric acid is an absolute necessity in the manufacture of high explosives. The war has stimulated the development of new and improved methods of securing the nitrogen needed for war purposes. When peace comes, the new knowledge can be turned to productive purposes. Perhaps the ability to draw on this inexhaustible supply of plant food contained in the air will be the next great step in agricultural progress. Our own government has appropriated twenty million dollars to establish a plant for using nitrogen directly from the air.

At the present time nitrogen as it exists in the form of nitrates that can be used as fertilizers, is worth from twenty to twenty-five cents a pound. This is prohibitive for fertilizing purposes.

The old reliable way of getting nitrogen into the soil by using legumes is no experiment and should be practiced on every farm. On farms where alfalfa and clover are grown in rotation, fed to live stock, and the manure hauled out, the crop yields have not decreased. A most striking fact brought out in some experiments that have gone on at the Missouri Experiment Station for twenty-eight years is that the rotation including clover has been as effective in keeping up the corn yield as spreading seven tons of manure annually. This does not mean that rotation is the only essential to retaining fertility, for in this same experiment a combination of rotation and manuring has maintained yields at a higher level than has either alone.

## CHOOSING A VOCATION

Choosing a vocation should be one of the big events in life. A right choice may mean the difference between a use-

ful, successful life and a total failure. Young people need all the help they can get in deciding this momentous question.

"The only people who are worth while are those who work," said Henderson S. Martin, Vice-Governor and Commissioner of Education of the Philippine Islands, in his address to the second division of the 1916 class who received their degrees December 20, 1916. "Choosing a Vocation" was his subject, and he went on to say that the young man or the young woman who enters upon a career of unlimited possibilities has a better chance than the young man or young woman who enters upon a career of limited possibilities.

"The career which I suggest," said Mr. Martin, "is a career of unlimited possibilities. It has to do with agriculture, which is the life of the nation; for that matter, it is the life of human society."

"Two things justify me in thus exalting agriculture. The first one is that it feeds the world; it makes possible the multiplication of human beings, and a progressive human society. The second fact is that the country is the only good breeding ground for men and women, and agriculture leads men and women to the country."

"In the ancient world agriculture went from first place to last place. In Europe, some centuries ago, agriculture led the industries; at this time, with one or two exceptions, Europe has no country where agriculture can be classed among the chief industries."

"In our country we are traveling the same road; we are following behind the people of the Orient and of Europe. If we travel the same road, it is inevitable that we shall reach the same destination. The business I am suggesting to you is the business of rescuing American agriculture before it is too late, as it is now too late in the Orient and in Europe."

"Swiftly, American society is passing from an agricultural society to an industrial society and my suggestion to you, young men and young women, is that you make it the business of your lives to rescue agricultural society. This is the time and here is the place. This is the time because we have a little temporary prosperity in agriculture and your demands could be supported by some power. This is the place, because Kansas is the most enlightened agricultural community in the world."

In pointing out some of the ways in which these young people could take part in this great work, Mr. Martin said that one of the first requirements for saving agricultural society must be a radical readjustment of rewards. "Farming must be made as profitable and as attractive as other lines of business. Conditions must be such that a due proportion of our financial leaders will be among the men whose business is farming; that a due proportion of our intellectual leaders will be among men whose business is farming, and that a due proportion of our social leaders will be among women who live on the farms."

"In an effort to promote agriculture it is a mistake to attempt to drive other people from the banquet. Fighting the railroads or the banks is not the way to secure a new agriculture. You should be constructive, not destructive. You should insist upon another plate at the banquet, a plate for agriculture."

"American agriculture needs a new spirit—a spirit that will ask questions, that will overthrow the old traditions about the place that should be assigned to agricultural society. Other modern industries have been to school. They have learned lessons, chief among which is co-operation. American agriculture has not yet learned that lesson."

Mr. Martin expressed the hope that this class might furnish its full share of the men and women needed to bring about this great work of saving American agriculture from the dangers before it. He told them that the legal profession is overcrowded; the medical profession is overcrowded; there are too many

clerks, too many merchants, and too many real estate men. In closing he said, "My suggestion is that you, passing by the overcrowded callings, become advocates of American agriculture. The prospect is tempting. If you do not want to plant corn, you may plant greater crops; you may plant ideas. Let me repeat that now is the time."

There were over sixty who received degrees at this time. They were the members of the 1916 class who required another term's work in order to finish the course.

## DAIRY ASSOCIATION MEETING

The Kansas State Dairy Association will hold its annual meeting in Manhattan February 7, during Farm and Home Week. This day has been designated "Dairy Day" and a program of unusual interest to dairymen has been prepared. Dairying is an industry that is rapidly developing in Kansas and this meeting should be widely attended.

The principal speakers on the dairy program will be Dr. L. W. Goss of the Kansas Agricultural College, who will talk on "Some Common Diseases of Dairy Cattle." Theodore Macklin, also of the college, will speak on the subject of "Profitable Methods of Marketing Butter Fat." One of the most important addresses will be that of John B. Irwin, of Minneapolis, Minnesota, who will give his experiences in breeding and developing Holstein cattle. Mr. Irwin is one of the leading breeders in the United States, a director of the Holstein-Friesian Association and owner of Duchess Skylark Ormsby, whose record is 27,761 pounds of milk and 1,205 pounds of butter fat in a year. Mr. Irwin has made his money from dairying and his experience and advice should be most helpful to all who are interested in this great industry.

F. B. Hills, publicity man for the American Guernsey Cattle Club, will be present and tell something of interest about the Guernsey cattle.

The most valuable part of the meeting will be a review of the experimental work with dairy cattle at the Kansas Experiment Station. This will be given in the live stock judging pavilion by Prof. O. E. Reed, head of the dairy department, and his associate, Prof. J. B. Fitch.

## STATE DAIRY EXHIBIT

Kansas dairymen have been overlooking the exhibit of dairy products that is made each year at the annual meeting of the Kansas State Dairy Association held in Manhattan. Some very high quality exhibits of milk and butter have been sent but the size of the exhibit has been entirely too small to be truly representative of what Kansas is doing in dairy production.

This year, as heretofore, premiums will be awarded for the best milk, the best five pounds of dairy butter, and the best ten-pound tub of creamery butter. Over \$200 in cash and dairy equipment is offered in prizes.

All entries of dairy exhibits must be sent, express prepaid, so as to reach the dairy department of the college not later than four o'clock in the afternoon of February 6.

We would urge dairymen all over the state to take part in this exhibit of dairy products. For further particulars write J. B. Fitch, secretary-treasurer of the Kansas State Dairy Association, Manhattan.

J. B. Dobbs, one of our old friends, writes from North Dakota to request a change of address. He says: "I will be eighty years old next summer. KANSAS FARMER is still a welcome guest at my home after over forty-four years of service, and I think it is increasing in value. I love it as an old and tried friend. I would write more often but my hands are quite stiff with rheumatism and your space is better filled. Success to you in your good work."

## KAFIR AND DRY WEATHER

One of the interesting things about farming and handling live stock is the fact that there are so many new things to learn. Endeavoring to solve the whys and wherefores of various farm operations is ever fascinating. It is easy to work at various jobs when you know exactly what is happening and why.

Recently Edward C. Miller, of the Department of Botany of the Kansas Agricultural College, reported some interesting facts about kafir and milo that illustrate this point. It is a matter of common observation that these plants stand dry weather better than corn. Some wonder why this is so. The careful study made by Mr. Miller shows that they are not only better fitted to absorb moisture from the soil because of their root systems, which have twice as many small fibrous roots as corn, but their leaf surfaces are only about half as great as that of corn. Because of this they lose less water by evaporation.

Mr. Miller used some sandy loam land that was of nearly even texture to a depth of ten feet, in making his study. After plowing it in the fall he irrigated it with eight or ten inches of water until it was saturated to a depth of three or four feet. In the spring it was given several shallow cultivations and harrowed and floated. Alternate rows of kafir, milo and corn were then planted. During the season all the suckers were kept out and every weed was cut as soon as it appeared. No other cultivation was given. At the end of the season the main roots of the different plants had spread out three feet at each side and had gone down six feet. The kafir and milo had twenty-five to thirty secondary roots to each inch of main or primary root, while corn had but twelve to fifteen. This large development of fine roots makes it possible for the kafir and milo to secure the moisture needed from the soil when the quantity present is so small that corn would wither and burn.

This explains why these crops are considered hard on the soil. Other crops cannot be grown until sufficient time has elapsed to again store the soil with moisture.

## ROAD MEN TEST CONSTITUTION

The constitution of the State of Kansas is to be tested by the Kansas Good Roads Association. It has generally been accepted that our constitution prohibits the state from taking any part in highway improvement. The \$2,255,000 that is to come from the federal government in the next five years for road work, is contingent on the state matching it dollar for dollar.

The good roads boosters have come to the conclusion that perhaps the constitution cannot be held up as a legal reason for the state's failure to act at once in the matter of aiding road work. One clause of the constitution is as follows: "The state shall never be a party in carrying on any works of internal improvement." This might seem to be conclusive, but in the same article of the constitution is another clause reading as follows: "For the purpose of making public improvements, the state may contract public debts."

The state has from time to time made appropriations for building roads about the grounds of state buildings, and it would appear that some precedents have already been established in the matter of the state taking part in road building. The plan of the Good Roads Association is to bring a suit in the supreme court and obtain a decision as to whether the state can legally improve public roads. As it now stands, nothing can be done with the federal money until the constitution has been amended, and that may mean a wait of two or three years before any road work can be taken up by the state.



# MOVABLE HOG HOUSE

## Proper Housing of Sow and Litter Essential to Success in Pork Production

**M**OVABLE hog houses or farrowing cots are most successfully used by many farmers who make a business of growing and finishing hogs for market. Shelter of the proper kind is a very important consideration in handling hogs. Many failures are due to the neglect to plan for suitable shelter and at no time is it more important than when the sows are farrowing. The pigs farrowed in February, March, or April, require warm, dry, well ventilated quarters. Otherwise the losses will be heavy and all hope for profit will be gone at the very beginning. Providing suitable shelter is distinctly a money-making proposition.

The individual, movable house is thoroughly practical. It has been carefully tested by experiment stations as well as by practical farmers. While some prefer the large centralized hog house, the movable type of house has many advantages to commend it.

It is our purpose to describe a good type of individual farrowing house. For the descriptive matter and the cuts we are indebted to Iowa Experiment Station Bulletin 152, prepared by John M. Evvard and J. B. Davidson.

### IOWA GABLE ROOF HOUSE

The movable house described is known as the "Iowa gable roof house." It is a little more expensive than the A-shaped house but has a number of advantages over that type. It has been successfully used for many years at the Iowa Experiment Station. It is simple of construction and presents a very attractive appearance. Some of its good features are: The perpendicular walls enable the floor space to be utilized to good advantage, permit of shade and airing doors, make possible considerable overhead space, adds substantially to the general attractive appearance, and encourage ease of moving.

In moving houses with upright walls, a very successful method of procedure is to take a strong, heavy rope, throwing it entirely over and around the house so that it is snug up against the walls; fasten same to a clevis, hitch a team on, and take the house where wished.

The framing structure of the Iowa house is rigid and substantial, thus insuring durability.

The roof doors, preferably placed on the east or south roofs and attached at the side, enable one to open the house for sunlight and aeration, thus increasing sanitation.

The entrance door may be placed either in the front end or in the side of the house. In the "A" house the door can be placed only in one of the ends.

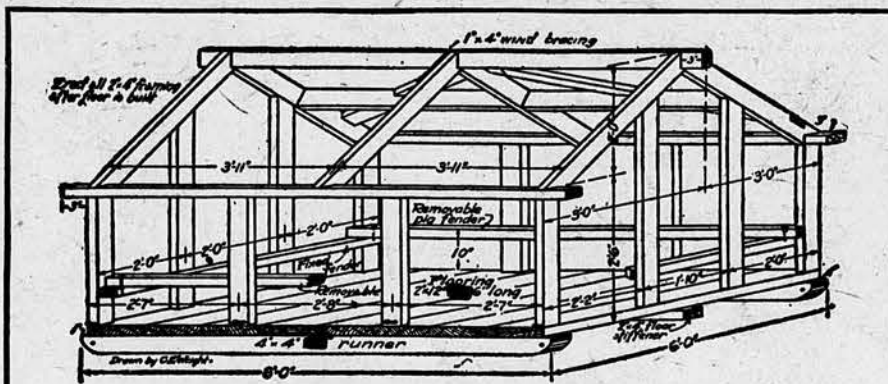
The runners or skids provide the foundation of the movable house. They should be large enough to hold it well off the ground. Four-by-fours of the more durable woods, such as fir or cypress, make good runners. It is not a good plan to use short-lived two-inch material in contact with the ground. Shoes or runners of steel made of wagon-tire iron are sometimes used on the runners but are hardly worth the extra cost.

### FLOOR OF HOUSE

The plans for this house call for two-inch floors. One-inch material can be used if joists are used to stiffen the floor. The cost of the house is reduced somewhat by using one-inch material, but the two-inch floor is much to be preferred. The wood used for the floors should be of the kind that resists decay. Number one white pine is more satisfactory than the yellow pine, especially if the ground is damp. Many of the experiment station houses have floors of fir—a very substantial, durable wood, but more expensive than pine. Earth floors are very satisfactory if kept dry, free from dust, and sanitary. Banking the house on the outside will prevent drafts getting underneath the side walls and will make the house considerably warmer.

### FRAMING OF HOUSE

The design submitted is of a rather substantial frame built of 2 x 4-inch material. It is entirely possible to build this house with much less framework, but the more substantially built house is desirable. White or yellow pine, No. 1 or No. 2, may be used in the framework. The construction of the frame is clearly shown in the drawing.



FRAMING PLAN OF GABLE-ROOF MOVABLE HOUSE

Wind braces in the roof framing on the slope opposite the hinged roof doors are quite essential in that they prevent distortion when the house is moved; they likewise add much to the general rigidity of the roof, thus insuring that the doors fit more closely.

### SIDING AND ROOF

The house is covered with ten-inch shiplap, which makes a tight wall. White pine of No. 2 grade is recommended for both the roof and sides, as it stands the weather somewhat better than does yellow pine. Yellow pine often shrinks so that battens are necessary, and sometimes resin oozes out and this causes the paint to scale. If desired, the white pine roof can also be battened, but this is hardly necessary unless plain roofing boards without grooves are used.

### DOORS CONVENIENTLY ARRANGED

Location, size, and general character of the doors mean much to the convenience of the hog house. There are entrance, end, and shade doors, each of which deserves mention.

The entrance door may be placed in the middle of the gable end, or near one corner of the end or side. The corner location, whether it be in the side or end, is the best because the hogs are better protected from drafts and storm, and bedding is not so apt to be blown or carried out. The size of doorway called for in the original plans, 22 x 26-inch, may be made larger, higher, especially, by building the sides higher, say six inches or so. Some of the large breeds demand higher doorways than specified.

The southeast corner door makes it possible for the direct rays of the early morning sun to fall upon the floor of the inner house, thus promoting growth and general vigor of the pigs.

When the door is at the corner it is necessary that hinges be used, whereas the central location enables one to have the more serviceable sliding door, which

is firmly held in place by guides and easily fastened with a solid, substantial pin or bolt.

A piece of burlap hung over the doorway furnishes an automatic door, but its serviceability is short. Another sort of automatic door may be made by means of straps (ropes or heavy dog chain may be used) and light pieces of about 1 x 2-inch or 3-inch dimensions. Simply nail the straps down on both ends of the previously arranged 1 x 2's or 1 x 3's sawed to fit the doorway horizontally, and placed side by side. The straps must extend beyond the combination of pieces so as to enable attachment to be made to the casing above the doorway from which the door swings. This door may be made of rope by boring two holes in both ends of the cross-cut pieces and then weaving the rope therein. Generally, however, the more rigid doors are to be advised because of their durability and other obvious advantages. With the automatic doors described, the hogs are not easily shut in or kept out of the house.

Doors in the roof are a great convenience and in addition they permit the interior to be thoroughly sunned and ventilated. The roof doors had best be on the east side of the houses which have the entrance doors on the south end; this is in order to take advantage of the successive early morning and forenoon sun. When the entrance door is in the east corner of the south side wall the roof doors should be on the south or sunny side.

The roof doors may be hung at the side or at the top. The side attachment allows of a maximum of sunning and convenience, whereas when hung at the end considerable shade is possible. The top hinged doors may be arranged so as to be turned back upon the opposite roof, thus avoiding the necessity of having a door to hold up.

The arrangement of window sash in the door openings of the roof is a commendable feature; especially is this true

when early pigs are farrowed. It is entirely optional with the builder as to whether or not the sash be included. The window sash are best made removable, so as to avoid accidental breakage when not in use. When the houses are moved the stresses may be such as to twist the window frames and crack the glass. The sash should fit snugly to avoid leakage. Standard size sash are preferable, as they are more economically purchased than when made to special order. In general, the glass sash in roof are of much service in the winter, early spring, and late fall. It is quite surprising to the novice to find how much warmer the house is when fitted with glass than when not. One can secure an abundance of sunshine without cooling the house by opening the doors—a necessary procedure when sunshine is wished in houses not equipped with sash.

To provide ventilation and furnish means for a convenient method of observing the sow and litter, the small end doors, usually placed well toward the comb, are a valuable addition; these, properly located, may be made of glass.

Hogs must have protection from the hot summer sun; the shade doors solve the problem of furnishing a warm, dry, airy place for rest and comfort. These doors had best be thoroughly reinforced at the hinges to insure stability and service.

### FENDERS SAVE PIGS

For the protection of pigs at farrowing time fenders may be provided on the sides and ends of the house. A satisfactory protective fender is made by fastening 2 x 4-inch pieces flatwise six inches from the floor. If the sides of the house are made into shade doors the fenders along these sides should be made detachable. The removable fenders can be so cut as to fit in place upon the end fenders, which are securely spiked into place and held firmly thus with an easily withdrawn bolt or spike.

### VENTILATORS TO SUPPLY FRESH AIR

A satisfactory scheme of ventilation is provided by leaving an opening of moderate size beneath the ridge pole, protected by nailing a wide triangular board under and flush with the edge of the extending roof boards. The wind is prevented by this arrangement from sweeping through the house. A larger ventilator may be provided throughout the length of the entire ridge by leaving an opening of two inches or so, protecting same with a false comb. Sometimes the smaller movable houses need a maximum of ventilation to insure dryness and fresh air, hence this suggestion. However, the use of the extended ridge ventilator necessitates that the roof doors be cut short at the top so as to easily clear the false protective comb.

### PAINT A GOOD INVESTMENT

Not only will the expense of painting the wooden movable house prove a good investment in prolonging the life of the building, but it adds sufficiently to the appearance of the house to justify the expenditure. Any good outside paint will be satisfactory, but two coats should be given to insure that the wood be thoroughly covered.

Some successful swine raisers practice the spraying of their hog houses, both inside and outside, with creosote oil or other similar preservative liquid. These liquids not only preserve the wood, but also act as disinfectants; they help especially in the eradication of lice and mange. Creosote oil stains the wood black and sometimes makes it streaked, thus possibly making its use objectionable from the standpoint of appearance.

If you want to get started in pure-bred hogs cheaply, buy a pure-bred gilt due to farrow in the spring and a good pure-bred boar pig. You can use this boar on the sow and the sow pigs next fall and also the following year. By raising two litters a year you can have ten or twelve pure-bred sows and gilts ready to breed by the time you need a new boar. If you make good selections in the beginning you can probably sell a few boar pigs for enough to cover the cost of the first sow and boar. It is just as easy to raise the pure-breds as grades and if properly handled they are sure to be more profitable.

### BILL OF MATERIAL AND ESTIMATE OF COST THE IOWA GABLE ROOF HOUSE

1 piece 4"x4"x16' for runner, fir, 21 1/2 board feet @ \$55 per M.	1.17
4 pieces 2"x12"x12' for floor, No. 1 white or yellow pine, 96 board feet @ \$30 per M.	2.88
1 piece 2"x4"x8' for floor stiffeners, No. 1 white or yellow pine, 5 1/2 board feet @ \$28 per M.	.15
3 pieces 2"x4"x8' for rafters, No. 1 white or yellow pine	
1 piece 2"x4"x8' for girt, No. 1 white or yellow pine	
1 piece 2"x4"x10' for ridge, No. 1 white or yellow pine	
2 pieces 2"x4"x10' for plates, No. 1 white or yellow pine	
*2 pieces 2"x4"x8' for studs, No. 1 white or yellow pine	
*2 pieces 2"x4"x10' for studs, No. 1 white or yellow pine	
2 pieces 2"x4"x8' for fender, No. 1 white or yellow pine	
1 piece 2"x4"x10' for fender, No. 1 white or yellow pine	
82 1/2 board feet @ \$28 per M.	2.32
1 piece 1"x4"x12' for brace, No. 1 white or yellow pine, 4 board feet @ \$30 per M.	.12
3 1/2 pieces 1"x10"x12', No. 1 white or yellow pine for ends	
*5 pieces 1"x10"x16' shiplap for ends and sides, No. 1 white or yellow pine	
1 piece 1"x8"x8' No. 1 white or yellow pine	
3 pieces 1"x10"x10' No. 1 white or yellow pine	
11 1/2 board feet @ \$30 per M.	3.44
11 pieces 1"x10"x8' shiplap for roof, white or yellow pine, 72 1/2 board feet @ \$30 per M.	2.21
3 pieces 1"x4"x16' for bottoms, 16 board feet @ \$30 per M.	.48
12 eyebolts @ 5c	.60
8 U bolts @ 8c	.64
5 pairs 12" strap hinges @ 22c	1.10
1 pair 8" strap hinges @ 18c	.18
1 door pull	.10
1 wire for holding door open	.10
12.5 pounds nails @ 4c	.50
.60 gallon to paint double coat 150 sq. ft. @ \$2.00 per gallon	1.20
Cost of material	\$17.19
Labor 15 hours @ 25c	3.75
Total cost	\$20.94



# GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

**A** LINCOLN County reader asks if it will hurt four-months-old pigs to run after cattle that are being fed heavily on cottonseed meal. The pigs are being fed some ground rye.

Cottonseed meal as now prepared cannot be safely fed to hogs. They seem to thrive at first, but in four to six weeks they begin to sicken and usually some will die unless a change is made at once in the feed. There seems to be little risk, however, in having pigs follow cattle eating cottonseed meal. Apparently it loses its poisonous principles in passing through the cattle. Care should be taken that the cattle do not throw any of the meal or cake out of the feed boxes where the pigs can get it. If this is watched there will be no danger in letting these pigs run after the cattle.

## Packing Ice

P. W., Brown County, asks how to pack ice in an ice house.

In packing ice, the best practice is to place the cakes on edge without any packing material between them. They should be so cut as to make it possible to have the upper surface of each layer smooth. Pack them as closely together as possible. If sawdust is used for packing, there should be from twelve to fourteen inches packed between the ice and the walls of the house. Poles or rails can be laid on the floor a few inches apart and covered with a layer of sawdust five or six inches deep. When all the ice is in place the top should be covered with fourteen or fifteen inches of the sawdust.

Drainage should always be provided to carry off the water. It is not always possible to get sawdust for packing. Fine chaff can be used in its place.

## West Kansas Corn Breeding

I. N. F., Rooks County, plans to take up corn breeding. He writes that he is very much interested in this line of work and would like to ask some questions through KANSAS FARMER. He is trying to settle on the most important features that he should consider in developing corn adapted to that part of the state. He says:

"I will mention a few of the points that have come to my mind and invite a thorough discussion of these points in KANSAS FARMER. It seems to me that for this part of the state earliness is important. Combined with earliness must be vigor, or the quality of making a strong growth in a short time. Other important features are those having to do with the prevention of inbreeding, avoiding the suckering habit, producing a type of ear that sheds rain and husks easily, height and thickness of stalk, desirable shape of kernel for accuracy in planting and vitality of the germ, and last but not least, high yields. Perhaps all of these cannot well be combined in the same strain or variety. It may be that an early and a medium or late strain would be best to grow. Can you suggest any other essential features that should be considered in breeding corn adapted to our Western Kansas conditions? Perhaps some of those suggested are not strictly essential and might stand in the way of developing more valuable qualities. Can a favorable environment be counted on to develop good qualities which will become permanent and be transmitted?"

We believe there are many characters that have been found valuable in developing corn in the more humid sections that must be modified in developing corn adapted to Western Kansas conditions. Farmers of the corn belt have been urged to select seed ears rough in type with covered tips, well rounded butts, and deep uniform kernels. Many of the characters are desirable but we believe the relative importance of some of them to yield has not been definitely worked out.

Some work along this line has been done during the past few years by C. C. Cunningham of the Kansas Experiment Station. The relation of different characters to yield has been the primary consideration in these tests. Such characters as length and circumference of ear, rounding out of butts, number of rows, and surface indentation, have been considered. In addressing the American

Society of Agronomy, Mr. Cunningham stated that the work had progressed far enough to indicate that some characters that have been emphasized actually tend to decrease yields. Under Western Kansas conditions comparatively smooth types of corn will produce better than the roughly indented types. Deep-kernel varieties do not produce as well on thin, upland soils as do varieties having shallower kernels. Where moisture is the limiting factor, varieties having smooth, shallow kernels invariably produce the best yields.

Characters that have developed under favorable environments cannot be expected to be permanent when the corn is taken to an entirely different environment. It is for this reason that seed corn breeding must be taken up in different sections. It is not possible to breed in Eastern Kansas types of corn that will be satisfactory in the western part of the state. There are real opportunities for those who will make a specialty of developing adapted types of corn. Those interested in this work should write to the experiment station for a copy of the circular telling of the relation of ear characters of corn to yield.

We trust those of our readers who are interested in corn breeding will write us their experiences along the lines of the suggestions offered by our Rooks County correspondent.

## Cement Water Tank

P. L. F., a Russell County reader, plans to build a water storage tank which he will use to irrigate his garden in dry weather, supply water to the house and to the drinking tanks for live stock. He asks if it would be advisable to use a silo form about ten feet in diameter and build a cement tank fifteen feet high, and whether such a tank would freeze enough in winter to bother.

It is practical to build a supply tank of concrete. A tank ten feet in diameter and fifteen feet high will hold, when full, 475 barrels of water. In a large supply tank where the water is continually being agitated, there is not much danger from freezing. The tank should have a roof on it if it is to be

used to supply water to the house, and this will help to keep it from freezing.

In building a concrete storage tank it is important that it have a solid foundation, be properly reinforced, and be made of a rich enough concrete to be water-tight. It is generally advised that the wall of a storage tank fifteen feet high should be twelve inches thick at the bottom, narrowing to eight inches at a height of ten feet and to four inches for the top five feet. Water is considerably heavier than silage and exerts more pressure. There must be enough reinforcing material in the wall to withstand water pressure.

For reinforcing a tank ten feet in diameter and fifteen feet high, one-half-inch rods should be placed in the wall every six inches at the bottom, gradually increasing the distance between them as the wall goes up. At a height of ten feet one rod every fifteen inches is enough. It is a good plan to change to quarter-inch rods toward the top. Four quarter-inch rods have the same tensile strength as one half-inch rod. If the change is made at a height of ten feet, place quarter-inch rods about every five inches apart, gradually increasing the distance between them an inch at a time. In placing the rods in the concrete the ends should lap two feet in making splices. They should be laid toward the outside of the wall. Some vertical reinforcement is also necessary. Half-inch rods can be used for this, placing them two and one-half feet apart. The rods going around the tank can be wired to the vertical rods to hold them in place while the concrete is being placed in the form.

For a water tank the concrete mixture should consist of one part cement, two parts clean sand, and three parts gravel or broken rock, the pieces of rock being not more than three-quarters inch across. The concrete should be carefully mixed and made wet enough to settle solidly in the forms, but should not contain an excess of water. A thin paddle or spade should be used next to the form so as to insure a smooth wall having no pockets or open spaces.

Special care must be taken in putting fresh concrete on top of concrete that has fully set. The top of the old work

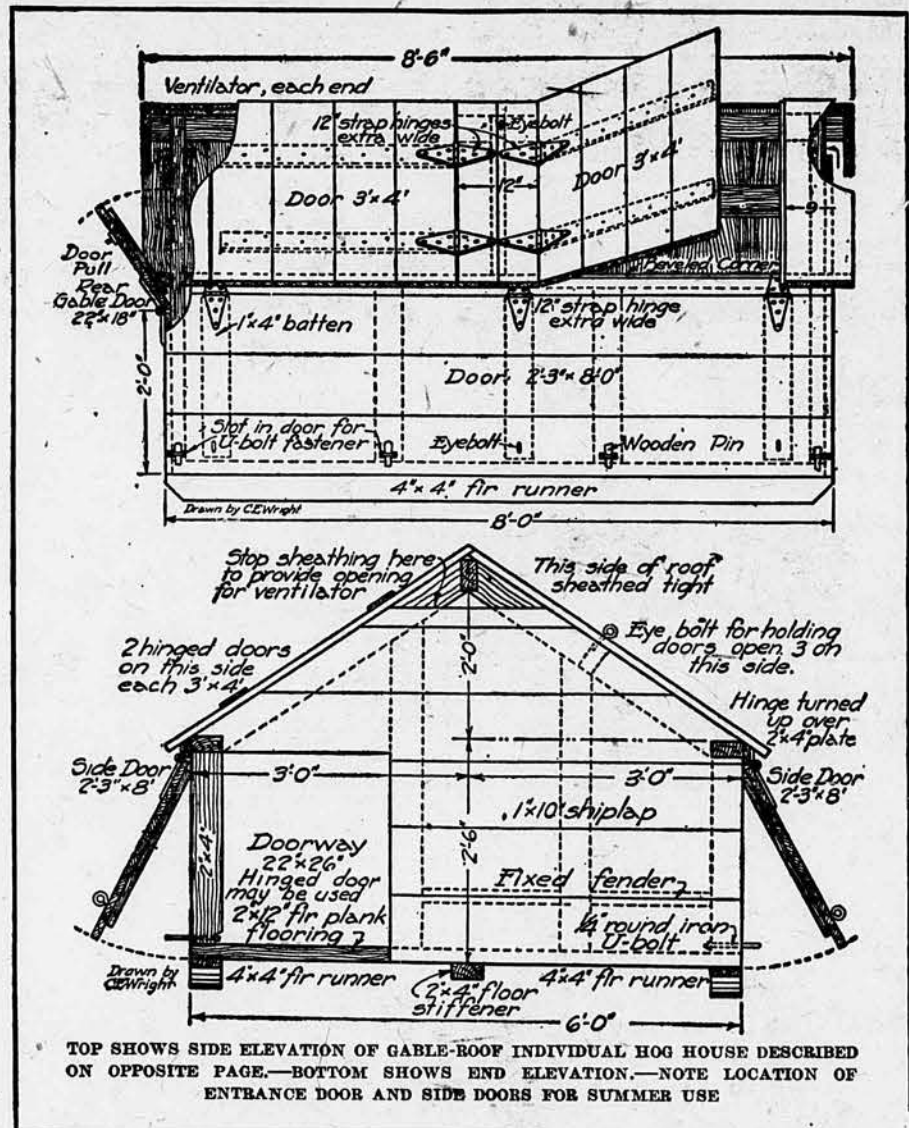
must be perfectly clean and should be slushed out with water after the forms are set for the next fill. Clear cement should then be sprinkled over the top of the wall before the new concrete is shoveled in.

The foundation must be below frost and rest on solid ground. The footing under the wall should be two feet wide and twelve inches thick, and a four-inch floor should be made at the same time the footing is put in, if possible. This should also rest on solid ground.

In building a water storage tank, it is a good plan to put it on an elevation if possible. This gives increased pressure and sometimes where there is a hill close at hand the tank can be made entirely under ground. This is an ideal way for making such storage tank. It can be more cheaply built than one that must be elevated above ground, and the water is kept cooler in summer and will not freeze in winter.

The inlet and other needed pipes must be put in when the concrete is placed.

The large cement companies furnish pamphlets that are very helpful in doing concrete work. The local dealer in cement will be able to tell you where to write to get such pamphlets.







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Some are simply making a statement on the feed record that the cow ate roughage during the month worth a dollar or a dollar and a half. This gives no idea as to what kind of roughage eaten or the amount. The feed, both grain and roughage, is being figured in the records at the uniform prices given in the feed schedule which you have. We are doing this work after receiving your records at our office. These prices may not correspond with what you are paying for feed or what your feed might sell for on the market, but to be fair to all the same feed prices are being used on all records. You will see from this how necessary it is that you put down on your feed record the amounts of hay, fodder, and silage your cow eats each day. We still want you to list on your feed records the price you pay for purchased feeds.

In making up your feed records be sure that all the feed the cow eats is shown on the record in pounds.

If your cow eats hay or fodder in a lot with other cattle and you cannot find a way to make an estimate, you will have to allow her the amount of feed usually eaten by a cow in a day. For example, if your cow is fed hay as the only roughage she will eat about two pounds daily to every pound of her weight, or a 1,000-pound cow will eat twenty pounds of hay in a day. If you are feeding her thirty pounds of silage daily, the 1,000-pound cow will eat in addition about ten pounds of hay daily.

When corn fodder or other rough feed of this kind is fed, the cow will not eat it all. You might give her an armful weighing thirty pounds and she would not eat over half of it. She should be charged on the record, however, with all you give her, for the prices on rough feeds of this kind are low in order to make allowance for the fact that they are poor in feeding value and will not be eaten clean.

Some of you who are feeding roughage that the cows like very much and which has high feeding value, such as good alfalfa hay, will find that they will eat more than the average allowance of hay mentioned above. There are also some differences in cows, one seeming to have a greater capacity for rough feed than another.

Every member of the club is interested in having the records as nearly correct as possible. It would not be fair to the other members of the club for you to make a low guess on the amount of rough feed your cow eats, any more than for some of them to underestimate their feed. We cannot complete your records here in the office unless you fill in the roughage on the feed sheet as directed. We want you all to make these estimates of hay, fodder, silage, or whatever rough feed your cow is eating and put the amounts down on the blank. If you fail to do this we will have to charge your cow with about the amount of rough feed we know a cow will eat on an average and complete your record in that way. Of course, your grade on keeping your records will suffer as a consequence.

If you have been sending in your records complete with the amounts of all the different kinds of feed in, this article is not for you. It is for those who have not been doing this.

### Here's a Good Record

In answer to your letter I wish to say that I have found the sheets in question. I am mailing them to you as asked.

Girlie is about dry now and will not freshen until in January. She will pay for her feed this month I think, though I milk her only once a day now. I am not feeding any grain now, but am feeding alfalfa and cowpea hay night and morning, also some corn fodder.

I have paid about \$60 on Girlie now and by April hope to have quite a bit over what I paid for her.—RALPH S. EDWARDS, Leavenworth County.



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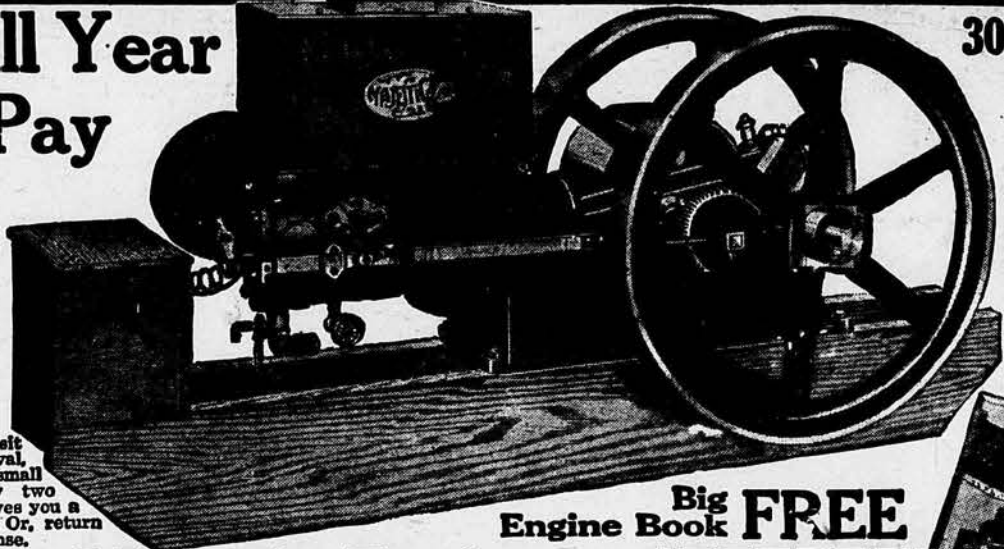
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## Economic Status of Milking Machine

IN A recent bulleting of the Federal Department of Agriculture are given the results of some extended investigations on the labor requirements of dairy farms as influenced by the use of milking machines.

It is stated that the use of the mechanical milker directly affects farm organization through its bearing upon the amount and distribution of labor required by the farms. In general farming labor efficiency is secured by the production of crops in combination with such other farm enterprises as will provide a nearly uniform amount of work throughout the year. There is no constant determining factor as to labor requirements. On the farm which receives the major part of its income from dairy products, however, the dairy alone is generally the determining factor. Any marked saving of labor effected on such a farm must be made in the production or handling of milk, hence the significance of the milking machine as a factor in the organization of the dairy farm.

The data upon which this bulletin is based were secured from 109 New York dairy farms, 56 of which were using mechanical milkers, and from 160 dairy farms in Ohio, Michigan, and Illinois, of which 100 were using milking machines. On the New York farms dairying constituted 90 per cent or more of the total farm business. The farms studied in Ohio, Michigan, and Illinois devoted considerable time to general farming as well as to dairying.

The principal facts brought out are summarized as follows:

The time saved by the use of the mechanical milker increases with increase in the size of the herd.

With herds of fifteen cows or less the average time required to milk a cow by hand is a fraction over seven minutes; by machine a fraction under five minutes.

With herds of over fifty cows it takes slightly under seven minutes to milk a cow by hand and but 4.15 minutes by machine.

With herds of over fifty cows one man with a machine milks on the average about twenty-eight cows per milking as against seventeen where the milking is done by hand.

With increase in the size of the herd the cost per cow of hand milking changes very little, while the cost per cow of machine milking decreases rapidly.

With herds of fifteen cows or less the average cost of milking per cow by hand is \$10.91 per year as against \$10.45 in herds of fifty or more.

With herds of fifteen cows or less the average cost of milking per cow by machine is \$11.77 per year as against \$7.34 for herds of fifty or over.

Although with the average small herd of fifteen cows or less it costs more per cow to milk by machine than by hand,

it does not follow that the machine is necessarily an unprofitable investment on all farms on which such small herds are kept. On thirty-two farms having herds of fifteen cows or less the use of the mechanical milker was found to effect an annual saving in hired labor of \$2.63 per cow through the dropping of hands who had been kept primarily to do the milking.

### Causes of Bitter Milk

Bitterness in cream and milk is a frequent trouble during winter months. If milk is bitter when it is drawn, the trouble is with the cow or her feed. Very often cows give bitter milk toward the close of their lactation period. The old dry weeds of winter pasture also give rise to a bitter flavor in milk. The remedy in this case is to keep the cow from such pastures.

However, if the bitterness develops after the milk is drawn, which is most often the case in winter, it is due to the growth in it of a certain variety of bacteria. These bacteria get into the milk usually from pieces of dirt or manure from the barn. At low temperatures they will develop a bitter flavor before the milk or cream sours. When the dairy is once infested with such bacteria they may remain in the separator, pails, strainers or cooling tank for a long time. To prevent bitterness due to this cause, these bacteria must be eliminated. This means that all utensils, separator parts, strainers and cooling tank must be thoroughly washed and scalded. All dirt should be kept out of the pail at milking time by keeping the can clean and using a pail with a small opening.

While making such a clean-up the trouble might be prevented by adding some sour milk to the cream as soon as separated and keeping it in a warm place until the batch is sour. Then it can be cooled and kept till churning time. Sour cream seldom turns bitter unless kept several days.—Press Bulletin, Missouri Agricultural College.

During the dry period the cow should be given a good ration so that she will be in good flesh when she freshens. This will improve the quality as well as the quantity of the milk. Just before freshening the grain ration should not be too heavy and should contain plenty of bran. The bowels should be kept well regulated. If necessary, one to one and one-half pounds of epsom salts may be used as a drench. The cow should have a period of rest of four to six weeks in order to give the best supply of milk during the period of lactation.

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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER



## PAINT AND CLIMATE

THE use of paint is of considerable value in protecting wood from the weather. A good deal of paint can be profitably used on the farm, not only as a means of making buildings more attractive but to make them last longer.

Paints differ greatly and it is important that the kinds used be of good quality and adapted to the special purposes for which they are designed. Cold weather, contrary to general opinion, has less effect on paint than hot weather, according to the results obtained from experiments during the last year by Prof. H. H. King, of the Kansas Experiment Station. The tests that have been made are for the purpose of ascertaining what kinds of paint pigments and mixtures of these pigments together with the various drying oils are best suited to the Kansas climate.

A test fence running east and west was built a year ago. On each side were placed 65 panels of selected wood painted with 65 different kinds of white paint. A panel of each kind of paint was placed on each side so that the effects of the two exposures might be compared. The paints were all made of white pigments ground in oils, but varied as to the proportions and kinds of white lead, zinc oxide, inert pigments, and fillers.

The panels exposed to the hot sun were found to have undergone a greater degree of deterioration than those which had been exposed to the wind, sleet, and snow on the north side.

Another such fence running north and south has 60 panels on each side, those facing east being tinted yellow and those on the west gray. Corresponding panels on this fence differ only in the coloring matter used. The gray panels show the most pronounced signs of weathering. This difference, however, is not attributed to the difference in tint but to the effect of the strong sunshine to which the gray is subjected. The sun, baking the board, causes the resin to come to the surface, pushing off the paint film.

On some panels a chalking tendency shows a softened surface. The paints mixed with the inert substances show this tendency less decidedly, for they are not so susceptible to the action of the air.

The oil tests, after one year of exposure, show no material difference in the paints containing drying oils not commonly used in paints. Sunflower oil, menhaden fish oil, cottonseed oil, and corn oil were used, being mixed in varying proportions.

A committee composed of H. A. Gardner, director of the scientific section of the American Paint Manufacturers' Association; W. H. Hendricks, general sales engineer of the New Jersey Zinc Company; Dr. J. A. Schaeffer, head chemist for the Picher Lead Company; and Professor King, have examined these fences and the results of their observations are to be published in a bulletin now in preparation.

Poor results in painting are more often the fault of the painter than of the paints. Either the lumber does not possess the proper surface, or the painter is unfamiliar with the best methods. Resinous, sappy, or green wood is unfit for paint. When heated, the resin "fries out" and the sap evaporates, taking off the film of paint. Warping wood sometimes causes splitting and peeling of the paint.

The most important point in the application of paint is the priming coat. This coat should have the most care because it is the bond between the wood surface and the subsequent coats. The paint should be thinned with turpentine to make it penetrate the wood and carry the oil into the pores. If the priming coat is not well applied the utmost skill will make no difference in the staying qualities of the following coats.

#### Interstate Live Stock Meeting

A convention of farmers and stockmen will be held in Arkansas City, Kansas, January 23. It is the annual meeting of the Interstate Association of Farmers and Stock Raisers of Kansas and Oklahoma. The program is largely

along the line of how to prevent and control live stock diseases.

J. H. Mercer, Kansas Live Stock Sanitary Commissioner, will speak upon "Sanitation on the Farm." Hon. F. M. Gault, president of the Oklahoma State Board of Agriculture, has accepted an invitation to speak on the program and will give a talk upon "The Disease Influence Upon the Live Stock Industry." Dr. F. S. Schoenleber, State Veterinarian of Kansas, will tell of "The New Serum Treatment for Blackleg." Dr. L. L. Lewis, State Veterinarian of Oklahoma, will make an address upon "Efficient Live Stock Quarantine."

John Fields is one of the speakers well known for his consistent efforts for safe live stock farming. He will speak upon "The Need of Publicity in Prevention and Control of Live Stock Diseases." E. G. Barnard, of the Department of Agricultural Development of the Frisco Railroad, will talk upon "Sanitation in Shipping." Dr. B. W. Murphy of the U. S. Bureau of Animal Industry will discuss "Combating and Preventing Hog Cholera." Other speakers will also address the meeting on hog cholera, tuberculosis, and other diseases affecting live stock in general.

Great pains have been taken to prepare a good program. The men behind the convention are pushing it with the hope that every farmer and stock raiser within several hundred miles of Arkansas City, Kansas, will arrange to be there on January 23. Further information will gladly be furnished by G. Homer Brown, Secretary, Arkansas City, Kansas.

#### A Farmer with a Vision

W. H. Niemeir went out to Western Kansas a few years ago with a small amount of money, enough to buy a quarter of cheap prairie land, build a small house and get a few cows. In Central Kansas where land is around \$100 an acre he would have been considered a poor man, because he didn't have money enough to buy a fair-sized wheat field in that section, to say nothing of improvements.

Niemeir is a student. As he went along he took notice of every phenomenon of Nature. For instance, one spring he ran his drill east and west over a wheat field which was threatening to blow away, and the dirt stopped flying. Not long ago he discovered that broom corn stalks make excellent silage.

There was never a farmers' institute that he did not attend. One bitterly cold January day he drove about fifteen miles to the county seat to attend an institute when the total attendance was not over a dozen. He was always ready to listen and learn. He never poked fun at "book farming." He is sending his children to public school and his oldest boy attends the short courses at Manhattan.

To make a long story short, he is now worth close to \$50,000. He has immense barns, big cement silos, an excellent house and other improvements. He has a big herd of cattle and his farm is a model of thrift, a big money-making plant.

Does the story end here? By no means. The best part is to come. Money-making is not the chief end of man, and Niemeir knows this. He once spent a half day at the county seat looking over pianos. He has installed a modern heating plant. Just last week he came to Wichita to investigate an electric farm lighting and power system. His home is a model of comfort.

Mr. Niemeir knows that the best investment is in citizenship and he is going to make good citizens of his children—men and women who will stay on the farm and bring to it the best there is in life, from schools, colleges, churches, and every other source of refining influence. He does not preach to his neighbors. Perhaps it never occurs to him that he is fulfilling a mission. But he is a first class missionary.—Wichita Eagle.

#### Sheep and Dogs

One session of the Sheep and Wool conference held in Philadelphia last

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November was devoted to hearing suggestions from bankers, a discussion of dogs and dog laws, and to questions of marketing. L. T. McFadden, president of the Pennsylvania Bankers' Association, said that any movement to be effective must be directed towards encouraging the farmer by putting the sheep industry on a profitable, business basis. Promoters of the industry must not cause the farmer to think they were hounding him something, and he must be convinced that there will be a stable market.

Mr. Conahan, a manufacturer and sheep raiser of Ohio, said: "I have 600 ewes and am always wondering when I will have the next dog raid. I have asked hundreds of farmers why they do not raise sheep and the invariable answer is, 'Because of dogs.' Up to the present there has been no law passed that really protected sheep and never will be until one is enacted which requires all dogs to be muzzled, or confined, all the time."

Mr. Bayard, of Pittsburgh, who is a member of a committee selected to study and propose dog laws, said that the dog laws of Pennsylvania are a conglomeration of laws and amendments, many inconsistent with others, and it is proposed to codify these and add the following: (a) a minimum tax, (b) a kennel license, and (c) require all dogs confined between sunset and sunrise.

Mr. Munce, of Washington County, Pennsylvania, said that they had found a rigid enforcement of the present law brought good results. Such enforcement had resulted in the killing of 3,500 dogs last year in that county.

Mr. Hopper, of the extension department of Cornell, New York, in giving some results of co-operation in Otsego County, said that after the farmers had pooled their interests and offered their wool to competitive buyers they received 33 cents per pound, whereas 26 and 27 cents was the best they could obtain before co-operating. Such concrete examples makes co-operative projects attractive and has stimulated the sheep industry in that county.

#### Curing Meats on the Farm

In curing pork on the farm, be sure that the hog has been properly slaughtered and then chilled without freezing for at least twenty-four hours. Hams, shoulders and sides make the best smoked meat and should be trimmed of all three-cornered pieces and ragged edges. These small scraps make good sausage but poor ham. Rub the meat well with salt and leave over night. Pack in a clean hardwood barrel with heavier hams on the bottom, the shoulders next and the bacon on top. Good brine can be made from 10 pounds of salt, 2 pounds of sugar or molasses and 4 gallons of water to 100 pounds of meat. It is a good precaution to boil and skim the mixture. Saltpeter may be added to preserve the natural color of the meat but is harmful to the health even if used in small quantities. Brine does not easily freeze but meat cures more rapidly if it does not become too cold. The bacon will cure in from twenty-two to thirty days, while the heavier hams need from forty to sixty days. Freshen cured meat in lukewarm water for six hours. Dry and smoke with hardwood or corncobs for four to seven days. It is safer to let the fire go out at night. Well smoked meat keeps best in a cool, dark, dry, well-ventilated place.

#### Exercise for Ewes

The more exercise the ewe gets, the healthier and stronger the lambs are likely to be. The ewes will also deliver their lambs more easily. Some men advocate hauling the roughage for the ewes to the field and spreading it about in small bunches. The ewes will then obtain exercise by running about from place to place. On wet, rainy or stormy days, they should be left in the barn, but whenever the weather is at all favorable the ewes should be out of doors for exercise.

One should not allow the fleeces of the sheep to get soaking wet in the winter time. The sunshine is not warm enough during this season of the year to dry them out again. Sheep with wet coats are likely to contract colds or pneumonia.

#### Plan Spraying Schedule

A spraying schedule good for all time is an impossibility, because what is considered good practice today may be obsolete tomorrow.

Steady progress is being made in spraying, the same as in other lines of

agriculture, but a spray schedule cannot be made that will fit all localities equally well. Each grower must take the general schedule and change it to fit his locality, the variety of fruit he is growing, and the conditions with which he has to deal.

As is well known, the scab is a northern disease and the grower in Northern Kansas would not use the same schedule as the man in Southern Kansas who does not encounter apple scab.

Apple blotch, being a southern disease, has been serious in Southern Kansas. The same spray schedule used in Southern Kansas for blotch would not fit other sections of the state where blotch is not so serious. Most of the plant diseases for which the grower must spray are to be found worse on some varieties than on others.—GEORGE O. GREENE, Horticulturist, Extension Division, K. S. A. C.

Generous feeding of young colts is required to produce heavy draft horses.

Farmers will find flaxseed the most profitable crop. More money in it than wheat. Booklet from Fredonia Linseed Oil Works, Fredonia, Kan.—(Adv.)

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Stop paying rent and get a place of your own at prices that will soon advance.

NOW, before the railway is completed, far-sighted men will get in ahead of the rush.

#### MADE A FORTUNE

I have been here since 1901, my former home being in Knox County, Illinois, and have gotten along fairly well. I had no capital at the start, just a few cattle and horses.

Have grown some wheat, milo and kafir, barley, oats and other feeds. Have raised some cattle, a few hogs, some horses and mules, and I have made something from year to year. My highest yield of wheat was 38 bushels to the acre and some years less. My average on wheat is fully 15 bushels per acre. My oats made me 85 bushels one year. My barley runs around 30 to 35 bushels and barley is fine for all live stock.

As I made a little money from year to year I bought a little more land and I now own 5,440 acres. I have a good home, good barn that cost me \$3,000, granary that holds 15,000 bushels of grain, a full farming outfit, and have other things necessary to carry on farming like it should be.

I have about 50 horses, 150 head of cattle and 100 hogs.

Every man with some get-up has made money in this country. My property has all come from what I made from the land, growing crops, raising cattle, horses, mules and hogs. Maybe I am worth \$100,000, land and all; and some people think the few horses and cattle I had back in 1901 and my little farming has made me rich. But I am not doing any better than any one can do if he will work.

L. L. Medlin,  
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Ochiltree and Hansford counties, north Texas, just across the Oklahoma line, will pay out big for you.

The best prairie land will be sold at about \$20 an acre on eight years' time to bona fide settlers; small payment down.

Wheat, cattle and hogs are big money-makers here.

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## MONTANA LANDS

Free map of Montana and free information regarding the grain and stock land of northern Montana. Write North Montana Immigration Ass'n, Dept. K-F, Havre, Mont.

THE GOVERNMENT sold the past year 600 small tracts land near and adjoining McAlester, city 15,000. Suitable for poultry and vegetables. We can sell some at very low price and good terms.

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# Awards to Young Gardeners

Year's Results Show Plans and Effort Count in Making Soil Produce—By Mary M. Baird

THE prizes in the annual Kansas Square-Rod Garden contest have been awarded. This is one of the many agricultural club contests carried on each year by Otis E. Hall, director of junior extension of the Kansas Agricultural College and co-operating with the United States Department of Agriculture.

In the garden club work any vegetable that can be used on the home table or sold on the market may be grown, although contestants are urged to use good judgment in the selection of seeds and varieties. They are also encouraged to keep every foot of space producing something from early spring until late fall.

Careful records are kept of all vegetables used at home or sold and the market price at that time noted. Where there are no good markets near and in homes where the families are large, home consumption is recommended.

The points on which prizes are awarded are the length of time products are available, the variety of vegetables, the total value of vegetables grown, the profits and the record and story, each of equal value.

It is a significant fact that the first and second prizes were taken by girls and the first prize in the same contest was won last year by a girl in Jewell County.

Elsie Gordanier of Otego, Jewell County, won the first prize this year. Her lead over her competitors was due to the high value of products grown on her plot—this value being \$23.83—and to the net profit, which was \$22.35. At this rate, the profit on one acre would amount to \$3,576.

Ruth Bray, winner of the second honors, lives in Manhattan, Riley County, and ranked first in every item considered by the judges, save value of products. She received a perfect grade on records and story, with perhaps the best set of papers ever sent in by a member of this club. She also received full grades for variety of products grown and length of time they were available for use, missing first prize only because her net profit was low compared with that of the first prize winner. Her story about her work follows:

"My garden was plowed March 17, by one of our neighbors. Before it was plowed it was carefully spread with fertilizer. Our whole garden is 50 by 60 feet. The plowing cost 75 cents. As there are 3,000 square feet in the whole garden, my share for plowing 270 square feet is 7 cents. Fertilizer for the whole garden cost \$2.50, my share being 23 cents.

"Vegetables were first gathered from my garden on April 18, and the last ones were gathered October 19, making six months and one day that the products were available. The first products were green onions and the last ones were beets, carrots, tomatoes and peppers, the latter being gathered on the evening of October 19, just before the heavy frost.

There are still some of the carrots and peppers unused in our basement.

"Altogether I have raised fourteen different kinds of vegetables. I kept record of the time of planting, length of time after planting until ready for use, and the date of the last gathering.

"The onions required the least time for growing before they were ready for use and the peppers required the most time of all the vegetables which I raised.

"The tomatoes and peppers were first planted in a window box on March 14. The tomato plants were transplanted to the garden May 10, and the pepper plants on May 30.

"The total receipts for vegetables raised were \$10.25. The expenses for fertilizer, plowing, seeds and labor were \$3.22. My net profits were \$7.03.

"There are 160 square rods in one acre. Since my profits on one square rod were \$7.03, the profits for one acre would be \$1124.80. I wish I could have had the profits on an entire acre.

"When my garden was planted, the top of a little ash tree was cut off and stuck into the ground to mark one of the rows. To my surprise, a little later leaves started to grow on this little cutting. The spring was quite wet and the little tree continued to live. I think roots must have formed because the little ash lived all through the hot, dry months of July and August and was still living when the first frost came this fall.

"I am glad I joined the Square Rod Garden Club. I have enjoyed the work very much and I have \$7.03 to my credit."

Other winners in the Garden Club are: Third prize, Everett George Reed, Lyons, Rice County, whose profits were \$12.70. He won second in the local contest. Fourth prize, Lavon Stewart, Newton, Harvey County, whose profits were \$10.31. Fifth prize, Iva Conner, Ottawa, R. F. D., whose profits were \$10.47.

## Teeth Affect General Health

Out of 330,179 school children examined in the City of New York in 1914, 194,207, or 58.8 per cent, suffered from defective teeth. This exceeded the sum total of all the other defects noted by nearly 80,000. Defective teeth impair general health and impede school progress. Disorders of the digestive tract, tuberculosis and various other diseases frequently are preceded by diseased conditions in the mouth. There is a direct relationship between dental development and mental development, and it is absolutely essential to good work in schools that children's teeth be maintained in a healthy condition.—Public Health Service Bulletin.

It will save steps and time to have several dust cloths. Keep these in different parts of the house so that it will not be necessary to go up and down stairs when you are ready to use one.

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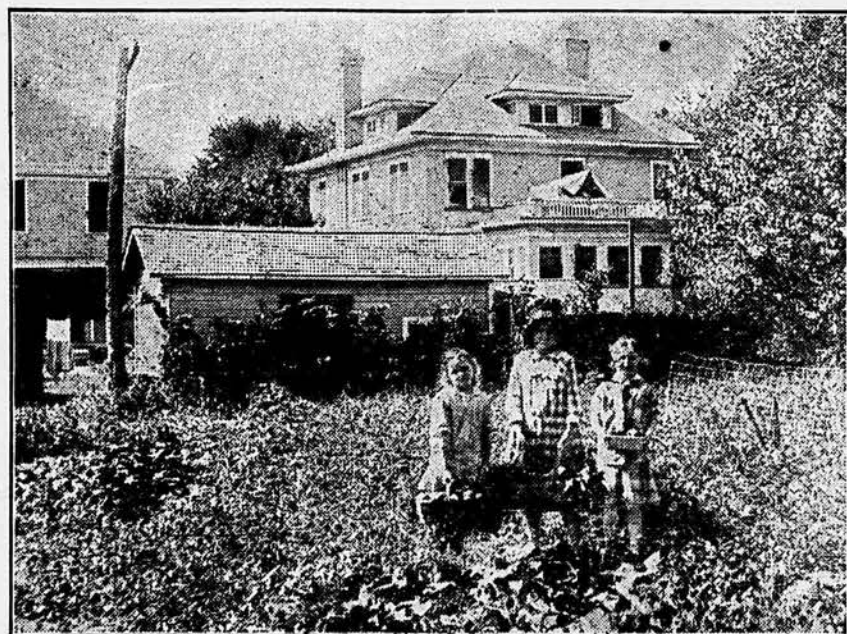
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## OVERLAND RED

## A Romance of The Moonstone Canon Trail

## CHAPTER XXIX

## TOLL

Aunt Eleanor and Walter Stone were at the gate. Collie was helped to the house and immediately taken to the guest-room. He was much fatigued with the journey. The question in his eyes was answered by Aunt Eleanor. "Louise rode over to the north range today. She should be back now."

Winthrop scarce needed an introduction. He was Anne Marshall's brother. That was sufficient for the host and hostess. He was made welcome—as he was wherever he went. He had heard a great deal, from his sister, of the Stones, and their beautiful niece, Louise Lacharme. He was enthusiastic about the Moonstone Canon. He grew even more enthusiastic after meeting Louise.

She came riding her black pony Boyar down the afternoon hillside—a picture that he never forgot. Her gray sombrero hung on the saddle-horn. Her gloves were tucked in her belt. She had loosened the neck of her blouse and rolled back her sleeves, at the spring above, to bathe her face and arms in the chill overflow. Her hair shone with a soft golden radiance that was ethereal in the flicker of afternoon sunlight through the live-oaks. From her golden head to the tip of her small riding-boot she was a harmony of vigor and grace, of exquisite coloring and infinite charm.

Her naturalness of manner, her direct simplicity, was almost, if not quite, her greatest attraction, and a quality which Winthrop fully appreciated.

"I have been quite curious about you, Mr. Winthrop," she said. "You are quite like Anne. I adore Anne. Shall we turn Boyar into the corral?"

If William Stanley Winthrop had had any idea of making an impression, he forgot it. The impression Louise was unconsciously making straightway absorbed his attention. "Yes, indeed! Turn him into a corral—turn him into anything, Miss Lacharme. You have the magic. Make another admirer of him."

"Thank you, Mr. Winthrop. But Boyar could hardly be improved."

"You trained him, didn't you?" queried Winthrop.

Louise laughed. "Yes. But he was well-bred to begin with."

Winthrop ejaculated a mental "Ouch!" Simplicity did not necessarily mean stupidity.

"Do you enjoy mining—the real work—out there in the desert, Mr. Winthrop?"

"I could enjoy anything in company with Overland."

"Of course. Do you think people who have lots of money are apt to be cynical?" she asked.

"Not more so than people without money. But what splendid animals!" he exclaimed as they approached the corral.

"Uncle Walter and I are very fond of them," she said, turning Boyar into the enclosure.

"Do you know, Miss Lacharme, I like horses and dogs and cats, and I just revel in burros. But animals don't seem to like me. They're rather indifferent to me. I wonder if it is a matter of health, or magnetism, or something of that sort?"

"Oh, no! But it is difficult to explain. Even if you are very fond of animals it doesn't follow that they will like you. That seems rather cold, doesn't it? It's almost unfair."

"Yes, if one considers it seriously."

"Don't you?"

Winthrop gazed at her for a second before replying. "I see I must tell you the truth," he said lightly. "You compel it. It does hurt me to have anything or any one that I care for indifferent to me. Perhaps it's because I realize that I am giving affection and selfishly want 'value returned,' so to speak. Pardon me for becoming serious."

"Surely! But I thank you, too. See Boyar roll! He's happy. No, he doesn't roll because his back itches. You see, he's sweaty where the saddle covered him. Before he rolled, you noticed that he deliberately found a dusty spot. The dust dries the sweat and he doesn't take cold. That's the real explanation."

"I knew it couldn't be through happiness at leaving you," said Winthrop.

"If you are determined to keep it up," said Louise mischievously, "all right. But be careful, sir! I enjoy it. It's been dull—dreadfully dull since Anne and the doctor left. May I have your knife?"

A belated crimson Colombe rose nodded beneath the guest-room window. Louise cut the stem and pinned the flower in the lapel of Winthrop's white flannel coat. He gazed at her intent on her task.

"There!" she said, with a light touch of her supple fingers. "That will do." And slowly her eyes lifted to his.

The color flooded to his face. His eyes became momentarily brilliant. He drew a deep breath. "You told me to be careful. I shall be," he said, bowing slightly. "Please say something. Your silent attack was a little too—too successful."

"Truce?" she queried, laughing.

"Never!" replied Winthrop. "Even as our rather mutual and distinctly illustrious friend Overland says, 'Not till me wires are all down and me lights are out.'"

Collie, standing at the open French window just above them, drew back. Quite naturally, being a young man in love, he misinterpreted all that he had seen and heard. Louise had been away the day he was expected to return to the ranch. She had come back. She was seemingly satisfied with Winthrop's society. She was even more than satisfied; she was flirting with him. An unreasonable, bucolic jealousy, partly due to his condition, overcame Collie's usual serenity. His invalidism magnified the whole affair to absurd proportions. Perhaps it was the intensity of his gaze that caused Louise to glance up. His expression startled her. His eyes were burning. His face was unnaturally white. He met her glance, but gave no sign of recognition—a rudeness that he regretted even while he manifested it.

Louise turned away proudly, calling Winthrop's attention to a huge garden-seat beneath the live oaks. "We have dinner out there quite often," she said, her eyes glowing. "Would you care to rest a while after your ride?"

"A jug of wine—a loaf of bread—" he quoted.

"But it isn't a wilderness. And dinner won't be ready for an hour yet. Don't you think a wilderness would have been utterly stupid with his 'thou' beside him singing everlastingly? Now please don't say, 'It would depend on the thou.'"

"Do you sing, Miss Lacharme?"

"A little."

"Please, then—a little. Then I'll answer your question."

"I had rather not, just now."

"My answer would be the same in either case. This is living, after the desert and its loneliness. I discovered one thing out there, however—myself. It was a surprise. My 'wayback' ancestors must have been pirates."

"Mine—grew roses—in southern France."

"I am glad they eventually came to America," he said.

"Are you so fond of candy, Mr. Winthrop?"

"No."

"Neither am I."

"I'm glad they came, just the same. I simply can't help it."

"Overland—Mr. Summers—doesn't take life very seriously, does he?" asked Louise.

"Not as seriously as life has taken him, at odd times."

"You brought Collie in your car, didn't you?"

"Yes."

"He's much better?"

"Yes. But he's pretty shaky yet. He's a little queer, in fact. As we came up the canon he asked me to stop the car by the cliff, near this end—that place where the sunlight comes through a kind of notch in the west. I thought he was tired of the motion of the car, so we stopped and he lay back looking at the cliff. Pretty soon the sun shot a long ray past us and it fairly splattered gold on the canon wall. Then the shaft of sunlight went out. 'It will shine again,' he said, as if I didn't know that. Collie's a pretty sick man."

Later Winthrop and Louise joined the others at the veranda. Louise excused herself. She searched a long time before she found another rose. This time it was a Colombe bud, full, red, and beautiful. She stepped to Collie's window. "Boy!" she called softly.

White and trembling, he stood in the long window looking down at her. "I'm glad you are home again," she said.

He nodded, and glanced away.

"Boy!" she called again. "Catch." And she tossed the rose. He caught it and pressed it to his lips.

## CHAPTER XXXI

## NIGHT

Evening, placidly content with the warm silence, departed lingeringly. Belated insects still buzzed in the wayside foliage. A bee, overtaken in his busy pilfering by the obliterating dusk, hung on a nodding mountain flower, unafraid above the canon's emptiness. An occasional bird ventured a boldly questioning note that lingered unfinished in the silence of indecision. Across the road hopped a young rabbit, a little rounded shadow that melted into the blur of the sage. A cold white fire, spreading behind the purple-edged ranges, enriched their somber panoply with illusive enchantments, ever changing as the dim effulgence drifted from peak to peak. Shadows grew luminous and were gone. In their stead wooded valleys and wide canons unfolded to the magic of the moon. There was no world but night and imagination.

With many rustlings the quail huddled in the live oaks, complaining querulously until the darkness silenced them.

The warm, acrid fragrance of the hills was drawn intermittently across the cooler level of the shadowy road. A little owl, softly reiterating his cadences of rue, made loneliness as a thing tangible, a thing groping in the dusk with velvet hands.

Then came that hush of rest, that pause of preparation, as though night hesitated to awaken her countless myrmidons. With the hissing of invisible leaves the Great Master's music-book unfolded. That low, orchestral "F"—the dominant note of all Nature's melodies—sounded in timorous unison—an experimental murmuring. Repeated in higher octaves, it swelled to shrill confidence, then a hundred, then myriad invisibles chanted to their beloved night or gossiped of the mystery of stars.

Then Night crept from the deep, cool canons to the starlit peaks and knelt with her sister hillfolk. Silence and Solitude; knelt, listening with bowed head to that ancient antiphony of thankfulness and praise; then rose and faced the western sea.

Boyar, the black pony, shook his head with a silvery jingling of rein-chains. His sleek flanks glistened in the moonlight. Louise curbed him gently with hand and voice as he stepped through the wide gateway of the ranch.

He paced lightly across the first shallow ford. Then the narrowing walls of the canon echoed his clean-cut steps—a patter of phantom hoof-beats following him, stride for stride. Down the long, ever-winding road they swung.

Louise, impelled to dreams by the languorous warm night and Boyar's easy stride up the steep, touched his neck with the rein and turned him into the Old Meadow Trail.

The tall, slender stems of the yucca and infrequent clumps of dwarfed cacti cast clear-edged shadows on the bare, moonlit ground. Boyar, sniffing, suddenly swung up and pivoted, his fore feet hanging over sheer black emptiness. Even before his fore feet touched the trail again, she heard the sibilant bur-r-ing of the cold, uncolling thing as it slid down the blind shadows of the hillside.

"I shan't believe in omens," she murmured.

[To be Continued.]

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## POULTRY

TO SUCCESSFULLY winter poultry there are a number of points in their care that should be watched closely. Ross M. Sherwood, of the Kansas Agricultural College poultry department, mentions the following rules as those that should be given special attention during the winter season:

Watering pans should be emptied at night to prevent freezing.

A slight increase in egg production may be obtained by feeding the chickens a warm mash once daily, but care must be taken not to have the feed too hot.

Either keep the birds in the house all the time or let them have free range. Letting them out one week and then keeping them in one week is sure to cut down the egg yield.

Green feed stimulates digestion and gives egg yolks a richer color.

Poultry houses should be free from drafts and dampness.

Fresh air and sunshine are two of the best disinfectants.

Dropping boards should be cleaned at least once a week.

Litter on the floor should be removed as soon as it becomes damp.

For the best egg yields do not neglect the protein feeds such as buttermilk and meat scrap.

Silage is a cheap form of succulence or green feed.

In the summer when the hens lay well they have bugs, worms, grasshoppers and other insects. In the winter they need something to take the place of this kind of food. Cut fresh bone is very good. Half an ounce daily per hen supplies all she needs of this food. High grade beef scrap is good and is in a very convenient form for feeding.—Extension Department, Agricultural College.

Fresh air is very necessary in the poultry house. Without ventilation the poultry house is neither dry nor sanitary. Chickens in a damp house are more liable to colds and roup than in a dry house. One of the best ways to ventilate in winter is by having an opening covered with muslin. An opening on the south side 2 by 3 feet for each 8 or 10 feet of length of house. A good way is to put the muslin on a frame which can be on hinges so that it can be raised on warm days to allow more air to enter.

Hens need some green food in winter if they are to lay well. Mangels, carrots and cabbage are good. Hang them up so that the hens can just reach them nicely. Sprouted oats are also good. Alfalfa and clover leaves can be soaked up and fed to good advantage.

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Keep about five or six inches of straw litter in the house. The grain may be fed in this. The hens will scratch for the grain and exercise will be insured. Clean nesting material should be placed in the nest boxes. There should be one nest box for every four hens.

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**FOR SALE—16-HORSEPOWER GASO-** line engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost \$480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

### SEEDS

**SEED CORN—BOONE COUNTY WHITE.** Carefully selected. \$2.50 per bushel, shelled. J. W. Taylor, Edwardsville, Kansas.

**LENHARDT'S SELECTED EARLY PRO-** lific seed corn. Every ear inspected by us. You get best results by using this corn. Lenhardt Bros., Gainesville, Ga.

**TIMOTHY SEED—FANCY, NEW CROP,** re-cleaned timothy seed at \$2.50 per bushel. Write today for samples. Watson Bros., Seed Merchants, Milan, Mo.

### SITUATION WANTED.

**MARRIED MAN, STRICTLY SOBER,** wants job on farm by the year where house and garden is furnished. Have had experience. G. I. Bardwell, Vesper, Kansas.

**WANTED—WORK ON DAIRY FARM BY** man 37 years old, experienced. Jersey farm preferred. Good references. Mark Johnson, Bronson, Kansas.

### THE STRAY LIST.

**TAKEN UP BY F. A. HEUSTIS, FARMER** Township, Wabaunsee County, Kansas, one 4-year-old red steer with white face, scissor brand on right hip, valued at \$50. November 13, 1916. L. B. Hurt, County Clerk, Wabaunsee County, Alma, Kansas.

### DOGS.

**COLLIE PUPS—U. A. GORE, SEWARD,** Kansas.

**COLLIE PUPS FROM GENUINE STOCK** dogs that drive from the heel. Best of breeding. E. L. Dolan, Route 2, Platte City, Missouri.

**AIRDALE—THE GREAT TWENTIETH** century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

### SHETLAND PONIES

**SHETLAND PONIES FOR CHRISTMAS—** Charles Clemmons, Coffeyville, Kansas.

### HONEY.

**PURE ALFALFA HONEY, DELICIOUS** flavor; two 60-pound cans, \$12.75. Wesley Foster, Producer, Boulder, Colo.

**HONEY FOR SALE, BOTH COMB AND** extracted. Write for prices. Nelson Overbaugh, Frankfort, Kansas.

**PURE HONEY—TWO 60-POUND CANS,** \$9.50, f. o. b. Las Animas, Colorado. W. P. Morley.

### HOGS.

**REGISTERED BERKSHIRE PIGS, \$10** each. F. U. Dutton, Penasola, Kansas.

**O. I. C. HOGS FOR SALE, TEN BRED** gilts and six male pigs. All choice registered stock. Write for prices. Carl F. Schuster, Route 2, Scranton, Kansas.

### HORSES AND MULES.

**FOR SALE—REGISTERED PERCHERON** stallion, 6 years old. Two Catalonian jennets. W. M. Dice, Tecumseh, Kansas.

**SALE OR TRADE FOR YOUNG STOCK,** 15-16ths Belgian stallion 9 years old, weight 2,000 pounds; 85 per cent breeder. W. G. Shideler, Silver Lake, Kansas.

**FOR SALE AT A SACRIFICE OR WILL** trade for western land, two good registered jacks, extra good breeders; a yearling jack, two jennets in foal. E. J. Dixon, Farnell, Missouri.

### WISCONSIN LAND FOR SALE

**LANDOLOGY, A MAGAZINE GIVING** the facts in regard to the land situation. Three months' subscription free. If for a home or as an investment you are thinking of buying good farm lands, simply write me a letter and say, "Mail me Landology and all particulars free." Address Editor Landology, Skidmore Land Co., 301 Skidmore Bldg., Marinette, Wis.

Chas. Holtham & Son, of Scranton, Kansas, are among the successful breeders of pure-bred Shorthorn cattle in Kansas. They have a very select herd and their blood lines are the best of the breed. A feature of their herd at this time is the choice lot of young heifers and cows in the herd. The heifers were sired by Colonel 393437 by Collynie Goods and out of Crocus by Waverly and the cows in the herd include Nettie Victoria 2d 223371 by Engle Prince out of Nettie Victoria, tracing to Imp. Victoria, Blythe Charm 223365 by Thistle Lad and out of Blythe Charm tracing to Imp. True-love. Other good cows trace to Imp. Young Mary and Imp. Adelaide.

## Reliable Poultry Breeders

### PLYMOUTH ROCKS.

**BARRED ROCK EGGS—WILL PLEASE,** \$1 postpaid. Mrs. Geo. Kennedy, Edmond, Okla.

**BIG BONED BARRED ROCK COCKER-** els, fancy breeding, \$2 each. Bred to lay strain. C. D. Swaim, Geuda Springs, Kan.

**BARRED PLYMOUTH ROCK COCKER-** els, pure-bred. Just a few at \$3 to \$5 each. Ben Vigus, Severance, Kansas.

**NOTICE, POULTRY BOYS.—WHITE** Rock cockerels for sale, \$1.25 and up. Frank B. Pfeiffer, Hays, Kansas.

**FOR SALE—BUFF ROCK AND BLACK** Langshan roosters, good ones, \$1.50 each. Newton Coffman, Rosendale, Mo.

**WHITE PLYMOUTH ROCKS—ILLINOIS** state show winners. Stock for sale. Prices reasonable. Circular free. Wm. Goodwin, Route 32, Chilliocothe, Illinois.

**BARRED—FIRST PEN ST. LOUIS SHOW.** First cockerel and cock, State Fair exhibition; breeding males. J. K. Thompson, 205 The Drive, Topeka.

**PETTIS' BARRED ROCKS—WINNERS** Missouri State Show, 1916. Cockerels, \$2 to \$5. Egg producing. Booking orders. Mrs. P. A. Pettis, Wathena, Kansas.

**BARRED PLYMOUTH ROCK COCKER-** els, Bradley strain. Parks 200-egg strain. \$3 to \$5 each. Eggs in season. Gem Poultry Farm, Haven, Kansas.

**BARRED ROCK COCKERELS, FROM** prize winning stock, \$1.50 to \$3.00. Write today. Satisfaction guaranteed. R. D. Ames, Walton, Kansas.

**LINDAMOOD'S BARRED ROCK COCK-** erels are better than ever. Nicely marked, strong boned. Order now for coming season. Prices, \$3 to \$5 each. Sent on approval. C. C. Lindamood, Walton, Kansas.

**PURE BARRED ROCK COCKERELS—** Large, vigorous, well marked birds, heavy laying strain, \$1.50 each. Choice large pen birds, \$3 each. S. R. Blackwelder, Isabel, Kansas.

### ORPINGTONS.

**MY BUFF ORPINGTONS STILL WIN.** Omaha, December, 1916. Fine cockerels or pullets. H. T. Farrar, Axtell, Kansas.

**PURE-BRED BUFF ORPINGTON COCK-** erels, \$1.00 to \$5.00 each. Hens and pullets, \$1.00 each. Myrtle Howard, Byron, Okla.

### DUCKS AND GEESE.

**GEESE, EMBDEN, TOULOUSE, CHINA;** turkey ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

**CHOICE WHITE EMBDEN GEESE AND** White Runner Ducks. Roger Smith, Centertown, Mo.

**SIXTY VARIETIES PRIZE WINNING** geese, ducks, turkeys, chickens, peafowls, guineas, stock, eggs. Cheap. Write wants. F. J. Damann, Farmington, Minn.

**ROUEN DUCKS, FINELY MARKED;** Wild Mallards, good and tame; White Guineas, White Wyandottes, French Houdans from scored stock. Guarantee safe arrival. Robert Fulliton, Austin, Neb.

### TURKEYS.

**EXTRA GOOD BOURBON RED TURKEY** toms, prices reasonable for immediate sale. Julia Haynes, McDonald, Kansas.

**FOR SALE—MAMMOTH PURE BRONZE** turkeys. Some two-year-olds. Nora Holmes, Fredonia, Kansas.

**BOURBON RED TURKEYS, LARGE** with splendid color and markings. Mrs. Elmer Nicholson, Route 5, Wellington, Kan.

**OAK HILL FARM—PURE-BRED M. B.** turkeys from high scoring stock. Pure-bred Duroc pigs. Lawson, Missouri, Route 3.

**SARVER'S FAMOUS NARRAGANSETT** turkeys, large boned stock, unrelated. Sunlight Poultry Farm, Mt. Moriah, Mo.

**BRONZE TOMS, \$15, \$8, \$5; HENS, \$5.** Toulouse ganders, \$4. Japanese Pekin ducks, \$4. Mrs. Mabel Sullivan, Route 7, Abilene, Kansas.

**FOR SALE—M. B. TURKEYS, BIG,** growthy fellows. Buff Rock cockerels and White Indian Runner ducks. No better blood anywhere. G. W. Perkins, Newton, Kansas.

**MAMMOTH BRONZE TURKEYS, "GOLD-** bank" strain. Beautifully bronzed, pure white edging, big boned, splendid birds, \$6 to \$10. Mrs. Iver Christenson, Jamestown, Kansas.

### POULTRY WANTED.

**PAYING—TURKEYS 24c, CAPONS 20c,** ducks and geese 13c, guineas each 40c. No. 1 fowls. Coops loaned free. The Copes, Topeka.

**OLD PIGEONS DELIVERED FEB. 1, 2, 3,** \$1 dozen. Write number you will ship. The Copes, Topeka.

### BRAHMAS.

**HIGH SCORING LARGE EARLY** hatched Light Brahma cockerels. Geo. Pratt, Wakarusa, Kansas.

**LIGHT BRAHMA COCKERELS — 100** good heavy birds, have won prizes at leading shows. Can surely furnish you quality. Schreiber Farm, Sibley, Iowa.

### WYANDOTTES.

**FOR SALE—PURE-BRED WHITE WY-** andotte cockerels, \$1.50 each. Mrs. C. C. Kagarice, Darlow, Kansas.

**SHUFF'S "BEAUTILITY" SILVER WY-** andottes, Cockerels, \$2, \$2.50, \$3, \$4, \$5; hens, \$1.50, \$2. Mrs. Edwin Shuff, Plevna, Kansas.

### ANCONAS.

**FOR SALE—SINGLE COMB MOTTLED** Ancona cockerels, Sheppard strain, from sweepstakes winners; \$1 up. Write me your wants. Frank Glenn, Newton, Kansas.

**SINGLE COMB ANCONA COCKERELS,** two dollars each; good ones. Mrs. Cecile McGuire, Pratt, Kansas.

### LEGHORNS.

**R. C. W. LEGHORN COCKERELS, \$1.50** each. F. Cornell, Wakefield, Kansas.

**S. C. BROWN LEGHORN COCKERELS,** strictly pure bred, \$1.50 each, \$15 per dozen. Order early before they are gone. Mrs. L. H. Hastings, Thayer, Kansas.

**CHOICE R. C. BROWN LEGHORN** cockerels, \$1.50. Lots of six reduction. Mrs. Griswold, Tecumseh, Kansas.

### LANGSHANS.

**BLACK LANGSHAN COCKERELS FROM** blue ribbon and sweepstakes winners. Mrs. D. A. Swank, Blue Mound, Kansas.

### GUINEAS.

**PEARL GUINEAS, \$1 EACH. CLIFFORD** Barrans, Lenox, Iowa.

### RHODE ISLAND REDS.

**ROSE COMB RED COCKERELS, \$1.50,** \$2.00. Mrs. Ella Stehle, Byron, Okla.

**CHOICE ROSE COMB RHODE ISLAND** Red cockerels. Mrs. C. H. Jordan, Wakarusa, Kansas.

**COCKERELS, S. C. R. I. REDS, GOOD** size, good color. Price \$1.50. Mrs. Joseph Greene, Bernard, Iowa.

**BIG FANCY AND UTILITY S. C. RED** cockerels. Satisfaction guaranteed. Lela Osterfoss, Hedrick, Iowa.

**FINE ROSE COMB RED COCKERELS,** \$2. Baby chicks, 10 cents. Order now. Lily Robb, Neal, Kansas.

**ROSE COMB REDS EXCLUSIVELY.** Cockerels for sale. Bean strain. M. L. Puckett, Puxico, Mo.

**ROSE COMB REDS, NICE LARGE GOOD** colored cockerels, \$1.50 and \$2 each; also few Bourbon Red toms, \$3.50 each. J. M. Nielson, Marysville, Kansas.

**BRED TO LAY S. C. REDS, CHOICE** large, deep red, hen hatched, farm raised cockerels. Best I ever raised. Satisfaction guaranteed. \$1.50 to \$3.50. Belmont Farm, Topeka, Kansas.

**ONE HUNDRED ROSE COMB RHODE** Island Red cocks and cockerels, sired by roosters costing \$15 to \$35—\$2, \$3.50, \$5 and \$7.50 each. A few higher. Order at once. They will go fast. Our pens mated for 1917 are the best we ever had. W. R. Huston, Red Specialist, Americus, Kansas.

### CHESTER WHITE HOGS

**Registered Immune O. I. C. Chester White** Bred Glts. Service boars, \$18 up; tried sow, prize winner, \$35; weaned pigs, \$8; unrelated pairs \$15, while they last.

**BIG FOUR STOCK FARM**  
Hickman Mills, Missouri

## Breeders' Directory

**ANGUS CATTLE.**  
Geo. A. Deitrich, Carbondale, Kan.  
D. J. White, Clements, Kan.  
**RED POLLED CATTLE.**  
Mahlon Greenmiller, Pomona, Kansas.  
**HOLSTEINS.**  
C. E. Bean, Garnett, Kansas.  
**DORSET-HORN SHEEP.**  
H. C. LaTourette, Route 2, Oberlin, Kan.  
**JERSEY CATTLE.**  
J. B. Porter & Son, Mayetta, Kan.

**PLEASE MENTION KANSAS FARMER**  
WHEN WRITING TO ADVERTISERS

### FARM AND HERD.

Catalogs are out for P. M. Anderson's Poland China bred sow sale to be held at Lathrop, Mo., February 1. This year Mr. Anderson has catalogued forty head, the tops of his big herd. This offering is either carrying the blood or bred to Mr. Anderson's great boar, Iowa King, first prize aged boar at the Missouri State Fair, 1915. He is a thousand-pound hog with great quality and one of the best breeders now in service. There will be sows in the offering bred to Anderson's Big Bone, a son of the grand champion Long Bone. Others are bred to Smooth Columbus 2d by Smooth Columbus.

E. E. Carver & Son, of Guilford, Mo., announce January 16 for their sale of Shorthorn cattle and Poland China hogs. On this date they will sell twenty-three head of cows and heifers. Several have calves at foot and are bred again to their pure Scotch herd bull. All the cattle and hogs are registered and are a useful lot of working stock. The cattle are from the best strains of milking Shorthorns and are the profitable kind for any farmer. The bred sows and gilts are the best in the herd and are all the big-type breeding, bred for early spring litters to the big herd boar, Alexis Again by Trusty King. This hog was the best boar sold in the T. E. Durbin 1915 fall sale and has proven a great sire of large even litters. Alexis Again is assisted by a splendid young boar, Mastodon Big Bone by Long Big Bone, and was bred by Clarence Dean, of Weston, Mo.; also C's Big Orange by Brown's Big Orange by A Wonder. His dam was King Lady and was the top sow in Fessenmeyer's 1913 spring sale.





## P. M. ANDERSON'S POLAND CHINA SALE

IOWA KING BRED SOW SALE

LATHROP, MO. FEB. 1, 1917

FORTY HEAD, as good as will be sold in Missouri, bred to or carrying the blood of the great Iowa King 67584. Sows sired by such noted boars as Iowa King, Smooth Columbus, Superior Jumbo, Master Orphan, King Jumbo, Long Wonder, Long Jumbo 2d and Long Wonder Boy and bred to four of the best boars I could mate them to—Iowa King, King Jumbo 2d, Anderson's Big Bone by the grand champion Long Big Bone, and Smooth Columbus 2d by Smooth Columbus. Write for catalog. Sale in heated pavilion, no postponement.

P. M. ANDERSON, - - LATHROP, MO.  
AUCTIONEERS

Col. H. S. Duncan, Col. J. Zack Wells, Col. J. W. Matthews, Col. N. M. Rogers

## Kansas Percheron Breeders' Sale

College Pavilion, Manhattan, Kansas

FRIDAY, FEBRUARY 9, 1917

FORTY-FIVE REGISTERED PERCHERON STALLIONS  
AND MARES

Every One Sound and a High Class Individual.

For particulars and catalog address

C. W. McCAMPBELL, MGR., MANHATTAN, KANSAS

JERSEY CATTLE.

JERSEY CATTLE.



## SEVENTY HEAD REGISTERED JERSEYS

FORTY COWS AND THIRTY HEIFERS FOR SALE.

Nothing over five years old. Richly bred Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

N. L. DUCHESNE - GREAT BEND, KANSAS

## 120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

## DORNWOOD FARM JERSEYS

Fine young bulls from Register of Merit and imported cows; descendants of Fontaine's Eminent, Pags 80th of Hood Farm, and Golden Fern's Lad.

DORNWOOD FARM, Route 1, Topeka, Kan.

## \$50 Noble Stockwell's Torono \$50

Sire, Noble Stockwell. Dam, granddaughter of Hood Farm Torono. She milked 32½ pounds milk daily, 2 years old.

BISONTE FARM - LAWRENCE, KANSAS

REGISTERED JERSEY 40-POUND 7 PER CENT COW, \$90

Her heifer by Register of Merit bull, bred, \$60, if sold in next fifteen days.

BIG FOUR STOCK FARM  
Route 1 - Hickman Mills, Missouri

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

## REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

## Bargains in Jersey Cows

From one to a carload of good, young, registered Jersey cows, mostly fresh or soon due. Offered at sacrifice prices because short of feed and cannot winter. Also a few open heifers and young bulls. Write your wants or come and see this stock.

The Ennis Stock & Dairy Farm, Holme, Mo. (Just South of St. Louis.)

## LINSCOTT JERSEYS

Kansas First Register of Merit, Estab. 1878. If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - HOLTON, KANSAS

## OHIO IMPROVED CHESTERS

O. I. C. Serviceable Boars—Yearlings sows and gilts bred for March farrow. Summer and fall pigs. G. P. Andrews, Dansville, Mich.

## Shorthorns and Polands

Tuesday, January 16, 1917

Evergreen Stock Farm, One Mile Northeast of Guilford, Mo.

TWENTY-THREE HEAD REGISTERED SHORTHORN  
COWS, HEIFERS AND YOUNG BULLS

All reds and roans. Some of the cows have calves at side and re-bred to our great Scotch bull, Prince of Quality.

TWENTY-FIVE BIG-TYPE POLAND CHINA BROOD  
SOWS

Bred to our great herd boar for spring litters. One or more young boars ready for service.

This stock is in fine thrifty condition and the best we have ever offered for sale.

Crates for Shipping Only

E. E. CARVER & SON, GUILFORD, MO.

HEREFORD CATTLE.

HEREFORD CATTLE.

## WALNUT BREEDING FARM

Hereford Cattle, Shropshire and Cotswold Sheep, Berkshire Hogs. Thirty-five grandsons and granddaughters of Beau Brummel 10th for sale. Some extra herd headers at reasonable prices, breeding considered. Come and see my herd. Satisfaction guaranteed.

LEON A. WAITE,

WINFIELD, KANSAS



## HEREFORD CATTLE

FOR SALE 35 BULLS, 10 MONTHS TO 2 YEARS OLD,  
20 COWS AND HEIFERS.

Best breeding families. Bred to an Imported Britisher bull. Come and see me. Sale barns right in town.

T. I. WOODDALL,

HOWARD, KANSAS

## STAR BREEDING FARM---HEREFORD PLACE

FOR SALE--100 BULLS 50 EARLY BULL CALVES  
30 COMING 2-YEAR-OLDS  
20 COMING 3-YEAR-OLDS

Herd headers and range bulls. Ten yearling heifers, twenty heifer calves and a carload of good cows. The very best breeding represented. Come and see me.

SAMUEL DRYBREAD,

ELK CITY, KANSAS

## HEREFORD CATTLE

150 Head in Herd. A few cows and heifers for sale. Also a lot of farm and range bulls. Priced reasonable.

B. M. BROWN, FALL RIVER, KANSAS

AYRSHIRE CATTLE.



When AYRSHIRES are through milking they fatten easily for the butcher and make splendid beef. For veal, their calves bring highest prices. They are the nearest "dual purpose" cow there is. Milk passes all requirements—beef yield large. That means DOUBLE PROFIT. Send for information.

C. M. Winslow, Secy.  
AYRSHIRE BREEDERS' ASS'N  
33 Park Street Brandon, Vt.

## AYRSHIRE BULLS

Age two weeks to two years, priced to move quickly at \$40 to \$80. Worth double. Bred for high production. All pure-bred and sure to get high producing heifers. Herd of nearly a hundred, established in 1906, located at Linwood, Kansas, near Kansas City. Tuberculin tested yearly, never found a reactor. Milk test over 4 per cent.

Dr. F. S. SCHOENLEBER, Manhattan, Kan.

BROWN SWISS CATTLE.

## "BRYN-COED"

Ten choice young bulls by well selected sires and highly-bred heavy-producing dams. Prices reasonable.

PHIL H. JONES - NASHOTAH, WIS.

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS  
Bred sows, \$25 to \$30 each.  
July gilts and boars, \$10 each for 30 days. Choice individuals. ATTEBERRY & SONS, Lancaster, Mo.

## HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

RED POLLED CATTLE.

## RED POLLED CATTLE

FOR SALE—Twelve cows and heifers.

I. W. POULTON, Medora, Kan.

## Red Polled Cattle

A few 1916 bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

## RED POLLED BULLS

FORTY yearling bulls, big rugged fellows, sired by ton sires; all registered and priced reasonably. Will sell a few females.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE

## McAdams Angus Herd

Outstanding herd bulls and richly bred cows with calves at foot for sale. Cows with calves by the great young bull, Senator Blackcap, and rebred to Blackcap H, grandson of Blackcap Judy. Also the show breeding bull Ecuador Ito by Undulata Blackcap Ito. Will also sell some choice Berkshire gilts.

GEO. M. McADAM - HOLTON, KANSAS

## EDGEWOOD FARM

ABERDEEN-ANGUS CATTLE  
Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS

Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

AUCTIONEERS.

## Live Stock and Farm Auctioneer

Write or wire for date. I can please you. LAFE BURGER, WELLINGTON, KANSAS

FRANK J. ZAUN Live Stock Auctioneer.  
Write or wire for date.  
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LESTER R. HAMILTON  
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Write for terms and date. Clarksdale, Mo.



## HORSES AND MULES.

## HORSES AND MULES.

## HOLSTEIN CATTLE.

## HOLSTEIN CATTLE.



## Percherons and Belgians

SIXTY-FOUR HEAD REGISTERED STALLIONS AND MARES.  
THIRTY STALLIONS AND THIRTY-FOUR MARES AND COLTS.

To close up a partnership, the thirty-four mares and colts must be sold by March 1, 1917. I mean business. Come and see me.

J. M. NOLAN,

Paola, Kansas

## PIONEER STUD FARM

Established 1870

FIFTY REGISTERED STALLIONS AND MARES

JUST ARRIVED—A new shipment of stallions and mares. If you are in the market for a good Percheron stallion or mare, now is the time. We can show you more bone, size, action and conformation than you will find elsewhere. Write or come today.

C. W. LAMER & SON

SALINA, KANSAS

## PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack 16 hands high, extra heavy bone, old, 15 to 18 years old. I can sell you a better jack for \$500 to \$600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.  
38 Mi. E. of K. C. on C. M. & St. P.  
40 Mi. S. W. of St. Joe, on Santa Fe

## 40 Head Percheron Stallions - 40 - Jacks and Jennets - 40

Two to six years old. Heavy bone. Imported Spanish jack at head of jennet herd. Prices reasonable. Come and see us. We mean business.

J. P. & M. H. MALONE

CHASE - - - KANSAS

SIX BREEDS DRAFT STALLIONS  
Pedigree and guarantee with each, \$450 and up. Time given.

R. I. LITTLE, Good Block, Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

DISPERSION SALE OF CLYDESDALES.  
One span of brood mares, regular breeders, in foal by imported stallion. One coming 3-year-old filly, one coming 2-year-old stud colt and one weanling. All show stuff. The thick, blocky kind, sound and best of breeding.

C. H. WEMPE - - - SENECA, KANSAS

## POLAND CHINAS

### Poland China Boars and Gilts

Twenty-five early spring boars and twenty-five gilts. Sired by I Am King of Wonder and Watt's King.

WM. WATT & SON - GREEN CITY, MO.

### OWA KING BRED SOW SALE FEB. 1

Will Sell 40 Head of Tops. Am offering now some choice herd boar prospects, June and July pigs. All immune. Send for catalog of sow sale and price on boars.

P. M. ANDERSON, LATHROP, MISSOURI

### TOWNVIEW FARM

Big-Type Poland Chinas.

For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.

C. E. GREENE - PEABODY, KANSAS

### DEMING RANCH POLANDS

Twenty strictly high class boars, bred the same as our grand champion sow and other prize winners. They are herd headers. Also gilts and bred sows and 150 fall pigs. All immune.

H. O. SHELDON, Herdsman Oswego, Kansas

### EUREKA POLANDS AND DUROCS

April boars, fancy individuals. Priced for quick sale. Sires, Lafontaine's Last, Bader's Golden Model 2d, McWonder and Big Ex Wonder.

W. H. SALES - SIMPSON, KANSAS

### ARKELL'S BIG POLANDS

April and March bred gilts by Longfellow Again and Chief Big Bone, weight 225 to 275 pounds. They are bred to Arkell's Big Timm. Also a few bred sows. Priced right.

JAS. ARKELL, JUNCTION CITY, KANSAS

### OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the CEDAR ROW STOCK FARM

A. S. Alexander, Prop. Burlington, Kansas

### Lone Cedar Poland China Herd

Good spring boars by Meyer's Orange and out of mature sows, at farmer's prices for thirty days; also fall and spring gilts, bred or open. Weanling pigs cheap. All immune.

A. A. MEYER - McLOUTH, KANSAS

### LANGFORD'S SPOTTED POLANDS

Boars—Serviceable age, guaranteed to please. Breeding stock both sexes.

T. T. LANGFORD & SONS, Jamesport, Mo.



## FAULKNER'S FAMOUS SPOTTED POLANDS

THE WORLD'S GREATEST PORK HOG.

ANNUAL BROOD SOW SALE, WEDNESDAY, FEBRUARY 14, 1917

Sixty big spotted tried sows and yearlings bred for February, March and April farrow. You know the kind. Catalog tells all. Ask for it. Address

H. L. FAULKNER, BOX K, JAMESPORT, MISSOURI

## FOR SALE OR TRADE

All or any part for dairy cows, Holsteins preferred, my stable of brood mares and young prospects, consisting of three record producing mares by Allerton, Baron Wilkes and Robt. McGregor. Two are bred to Trampfast (2) 2:12½, four coming two-year-old fillies, three coming two and three-year-old geldings, one weanling colt, sires by Capt. Aubrey 2:07½, Peter Red 2:11½, Whitefoot 2:22½, all eligible and registered under Rule One. Size, quality, and in good flesh. Address

BOX 72, ROUTE 3, SMITHVILLE, MO.

Home-Bred Draft Stallions, your choice \$500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa



### PERCHERONS-BELGIANS

Imported and home-grown mature stallions, ton and heavier, 3-year-olds, 2-year-olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Ia. (Above Kansas City.)

## PERCHERONS FOR SALE

Five head pure-bred Percherons—Two mares, one 2-year-old stallion, two last spring colts. All good ones. Low price to the man that takes all.

J. W. BARNHART, BUTLER, MISSOURI



## JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER, Moline, Elk County, Kansas

## GALLOWAY CATTLE.

## GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

## DUROC JERSEYS.

## A HERD BOAR

We offer the splendid herd boar, Gold Medal 176231, also spring boars by him and the great boar, Country Gentleman 132541. All double immune. Prices reasonable.

W. R. HUSTON - AMERICUS, KANSAS

## TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.

G. M. SHEPHERD - LYONS, KANSAS

## GUARANTEED DUROC BRED GILTS

Immune Duroc gilts with size, bone and stretch. Guaranteed in farrow. Shipped to you before you pay.

F. C. CROCKER, BOX K, FILLEY, NEB.

## Wood's Durocs

Gilts bred and open. Boars all sold. A nice bunch of gilts to select from. September pigs of both sexes. Prices reasonable.

W. A. WOOD & SON, ELMDALE, KANSAS

## SHEEP.

### RAMBOUILLET SHEEP

A lifetime experience proves the Rambouillet is easily the best sheep for Kansas conditions. We offer choice individuals, either sex, with good bone, size, form and fleeced. E. D. KING, Burlington, Kansas.

## POLAND CHINAS.

## Size and Quality Poland

Poland China boars and bred gilts for sale. I have six gilts bred to farrow in March that weigh 275 pounds each. Price, \$35 each. Four boars of same weight, \$25 each. Lot of summer and fall pigs, \$15 and \$10 each, the big kind.

OTTO PLAGAMANN, EUREKA, MISSOURI

Clyde Girod, At the Farm.

F. W. Robison, Cashier Towanda State Bank

## HOLSTEIN FRIESIAN FARM, Towanda, Kansas

Pure-Bred Holsteins, all ages, strong in the blood of the leading sires of today, headed by Oak De Kol Bessie Ormsby 156789. Special offering of choice young pure-bred bulls, ready for service, from tested dams. Let us furnish you a bull and improve your herd. TWENTY-FIVE pure-bred females, young useful Holsteins with A. R. O. records from 12 to 26 pounds butter in seven days.

## BEFORE YOU BUY, TALK WITH US

We have an especially large, choice selection of extra high grade young cows and heifers due to freshen this fall and early winter, all in calf to pure-bred bulls. These females are large, deep bodied, heavy producers, with large udders, all well marked individuals and the right dairy type. Our offerings are at prices that challenge comparison for Holsteins of their breeding and quality. High grade heifer calves, \$25. Send draft for number wanted. Let us know what you want in Holsteins, and we will be pleased to send you descriptions and prices. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON -:- -:- TOWANDA, KANSAS

## MAURER'S HOLSTEIN FARM



Offers everything in Pure-Bred and High-Grade Holsteins. A number of registered cows and heifers from noted sires such as granddaughters of Pontiac Korndyke, with high record A. R. O. dams. Also a number of cows and heifers bred to one of the best sons of Rag Apple Korndyke 8th, the world's champion bull, and several male calves by the same sire with good record dams, at bargain prices. Write your wants in Holsteins to

T. R. MAURER,

EMPORIA, KANSAS

Farm Located Three-Fourths Mile West of Town on Sixth Avenue

## HOLSTEINS and GUERNSEYS

Registered and high grade cows and heifers—service bulls. Carload or less. High grade calves, \$18.00 each crated. Write us. We have what you want. Address

EDGEWATER STOCK FARM - - - FORT ATKINSON, WISCONSIN

## HOLSTEIN CATTLE

We offer for sale 200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at \$15 each, crated f. o. b. cars. First draft takes them. Write

W. C. KENTON & SONS, ELGIN, ILLINOIS

## TREDICO FARM HOLSTEINS

Breed 'em from "Tredico Truth Herbert Oak" ancestry, largest, type. Champion of "National Dairy Show." Good udders and no extreme angles of hard forcing records.

George C. Tredick, Route 2, Kingman, Kan.

## SHORTHORN CATTLE.

## Barber Shorthorns

Villager Junior and Curley Dals Head Herd.

For Sale—Twenty coming yearling bulls, 20 yearling bulls, 40 cows and heifers, Scotch and Scotch topped. We have what you want. Come and see our cattle. Three hundred head in herd.

## F. C. Barber & Sons

SKIDMORE - - - MISSOURI

## PEARL SHORTHORN HERD

Pearl, Dickinson County, Kans.

For Sale—Twenty bulls, 8 to 10 months old, red, white and roan. Can ship over Rock Island, Union Pacific, Missouri Pacific or Santa Fe. Come and see my herd.

C. W. TAYLOR - ABILENE, KANSAS

## Shorthorn Heifers

For Sale—Six Scotch-topped heifers and one Scotch-topped bull, April and May calves, good ones, weight about 500 pounds, bull 600 pounds; all reds.

CHARLES HOTHAM & SON, Scranton, Kas.

### OUR HERD BULL

Abbotsford Lad 2d 395841, pure Scotch, deep red and a good breeder, three years old, priced to sell quick. We are keeping every heifer calf sired by him, also some young bulls six to ten months.

CHESTER A. CHAPMAN, Ellsworth, Kan.

## CEDAR HEIGHTS SHORTHORNS

For Sale—Ten herd bulls from seven to eighteen months old. Scotch and Scotch-topped. Priced reasonable. Come and see my herd. HARRY T. FORBES, Bell Phone 59-N-1, Route 8, Topeka, Kansas.

## Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

## RIVERSIDE SHORTHORNS

Headed by Prince Valentine 4th 342179. Families represented, Orange Blossoms, Butterflies, Queen of Beauty and Violets.

H. H. HOLMES, Route 1, Great Bend, Kan.

## REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

M. E. MOORE & CO. - CAMERON, MO.

## HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

## CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

L. F. CORY & SON, BELLEVILLE, KAN.

## Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - SCRANTON, KANSAS

## The Cedar Lane Holstein Herd

We are now offering some exceptionally good bulls of serviceable ages at very attractive prices. These calves are sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

## Wichita Holstein Herd

High grade and registered cows, some heifers and heifer calves at reasonable prices. Bull calves at \$10 and up. Wichita Holstein Herd, R. 4, Wichita, Kan.

### HOLSTEIN CALVES

Registered and high grade Holsteins. High grade heifer calves two to four weeks old, \$20, delivered. We can supply you with anything in Holsteins.

CLOVER VALLEY HOLSTEIN FARM

Whitewater - - - Wisconsin

## BONNIE BRAE HOLSTEINS

Registered bulls from calves to 5 months old. Best breeding and good individuals.

IRA ROMIG - TOPEKA, KANSAS

## Braeburn Holsteins

A. R. O. BULL CALVES

H. B. Cowles, 608 Kansas Av., Topeka, Kan.

## LILAC DAIRY FARM

Route No. 2, Topeka, Kansas.

BREEDERS OF PURE-BRED HOLSTEINS  
Bulls from A. R. O. cows, all ages, for sale.

### GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

### HOLSTEIN BULL CALVES

Out of A. R. O. dams. Three, six and eight months old. Priced reasonable.

P. W. ENNS - NEWTON, KANSAS

HIGH-GRADE HOLSTEIN CALVES beautifully marked, 15-16ths pure, \$20 each. Write us. Fernwood Farm, Wauwatosa, Wis.

## REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

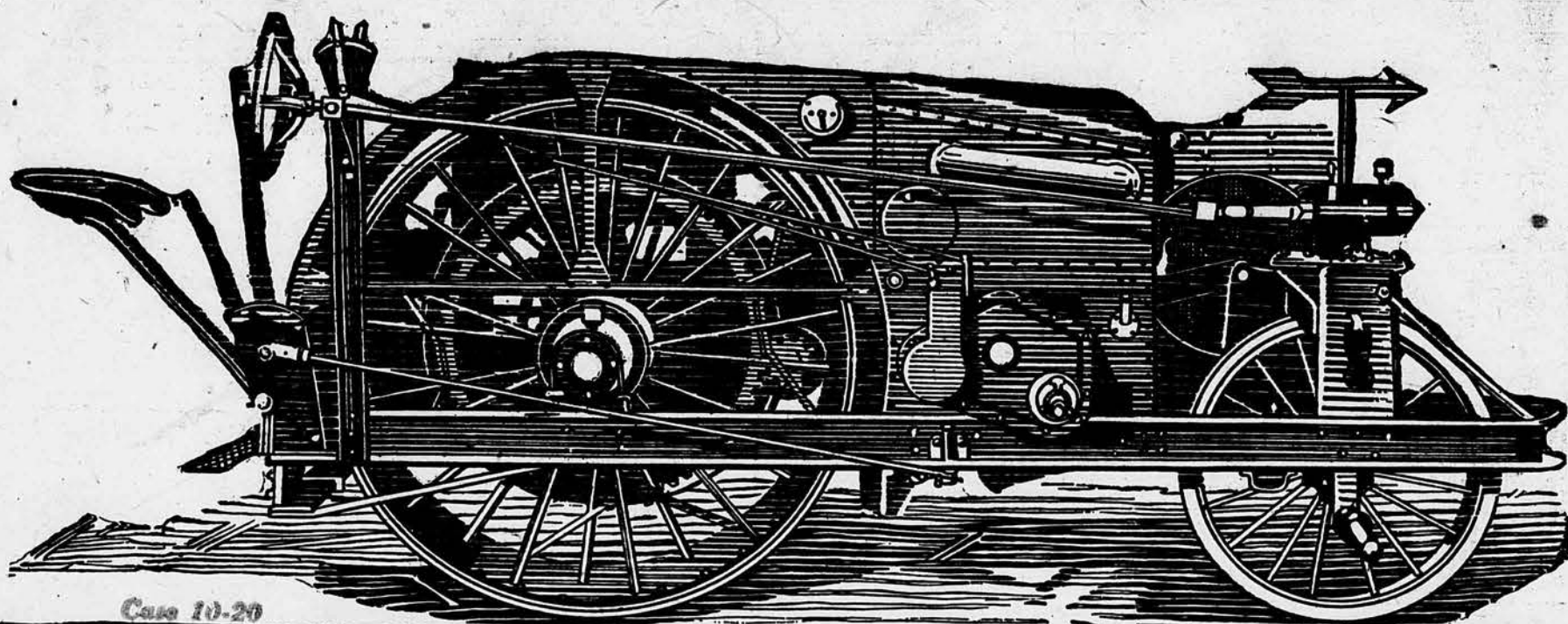
G. REGIER & SONS, WHITEWATER, KAN.

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. \$20 each, crated for shipment anywhere. Write EDGEWOOD FARM, Whitewater, Wis.

### LOWENONT SHORTHORNS.

Brawith Heir 351808 heads herd. Inspection invited. E. E. Hancock & Son, Hartford, Kan.





Case 10-20

## For Men Who Want a Quality Tractor

As farmers study and buy tractors more and more, the merits of Case Tractors are better appreciated. Quality is the first thing to consider, advise authorities. Wise men heed it. For quality means performance.

Careful farmers are more inclined than ever to turn to an old-established concern which has a record behind it, one that can afford to include construction superiorities. That was evident at the demonstrations.

From grandfather to father and son (this is our 75th anniversary) has passed the word that Case machinery may be depended upon. It is almost a farm proverb. This has decided hundreds to choose Case Tractors. Few can content themselves with lesser quality.

With 24 years of gas engine experience, Case has set the pace in the farm world for kerosene and gasoline tractors, of the higher grade, as it did in the steam engine field years ago, where it still dominates.

This preference for Case was proved last winter, when over 15,000 farmers wrote to us to inquire about these farm labor-savers. Hundreds of testimonials have come in from all over the country from satisfied, enthusiastic users. At the demonstrations, farmers saw for themselves the superiorities which Case can afford to put in its machinery, and made comparisons. Farm paper and agricultural college experts praise the performance and simplicity of Case Tractors.

Most people now concede Case leadership.

**J. I. CASE THRESHING MACHINE COMPANY, Inc., 174 Erie Street, RACINE, WIS.**  
FOUNDED 1842 (463)

### Announcing a Fifth Size

In addition to the four master tractors offered last season, Case now introduces the 9-18. This smaller size follows Case principles, and is built in the same honest and careful manner as the 10-20, 12-25, 20-40 and 30-60. All are made complete at the Case plant by Case workmen. The 9-18, though designed for smaller farms, is not too light, too small nor too cheap.

At the tractor demonstrations this summer the 9-18 created a profound sensation. Orders for hundreds were received from farm owners and dealers.

All know that Case Tractors have been approved after long and severe tests. Owners have the insurance that comes with owning a *proved* tractor, not an experimental one.

### Announcing a Small Thresher

Another announcement of widespread interest is that Case now offers small, light threshing machines suitable for use with tractors. While these have all the well-known perfections of the larger Case Threshers, their capacity and price make it possible for each farmer to own his own thresher.

We have just prepared a new 1917 Case album in colors in commemoration of our 75th anniversary, which we think is the finest yet produced in the agricultural world. It is a book so replete with information of value to every farmer that no one can afford to be without a copy.

This catalog describes Case kerosene and gas tractors, Case steam engines, Case threshing machines, Case road machinery, Case automobiles, and every Case product. Write today for your copy. It is free.

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