

# KANSAS FARMER

For the improvement of the Farm and Home

Volume 54, Number 1.

TOPEKA, KANSAS, JANUARY 1, 1916.

Established 1863. \$1 a Year

## I WILL

I will start anew this morning with a higher,  
fairer creed,  
I will cease to stand complaining of my ruth-  
less neighbor's greed;  
I will cease to sit repining while my duty's  
call is clear.  
I will waste no moment whining and my  
heart shall know no fear.

I will look sometimes about me for the  
things that merit praise;  
I will search for hidden beauties that elude  
the grumbler's gaze;  
I will try and find contentment in the paths  
that I must tread,  
I will cease to have resentment when another  
moves ahead.

I will not be swayed by envy when my rival's  
strength is shown;  
I will not deny his merit, but I'll strive to  
prove my own;  
I will try to see the beauty spread before me,  
rain or shine—  
I will cease to preach your duty and be more  
concerned with mine. —S. E. Kiser

1916



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## BRAKE AND CLUTCH

Items of Every Day Interest About  
The Automobile and for the Motorist

SOME car owners run their automobiles all winter and seldom have trouble from freezing or in starting. The magneto certainly "has it all over" the dry cell for cold weather starting, for when a dry cell is frozen, or cold enough to freeze, there is little chance of getting current out of it, while the magneto will work at any old temperature which is not hot enough to drive the magnetism out of the permanent magnets or to destroy the insulation of the armature winding.

If cars are to be used in below zero weather and must stand in that temperature when not running, then means must be taken to keep them thawed out. Storage cells and dry cells as well, will seldom freeze while at work, for the very act of providing electricity keeps them from freezing. If a dry cell be so very cold that you cannot get current out of it, then just get two or more warm cells, couple them in series, and connect them in series with the frozen cells.

The carburetor is another cold weather danger point, as far as starting is concerned. I have seen car drivers who kept an old flatiron, a brick, piece of soapstone, or some other convenient article, upon the stove and when the car was to be started on a cold morning, the hot object was placed beside the carburetor for a short time and the heat imparted to the carburetor and to the gasoline, caused the car to start readily and easily.—JAS. F. HOBART in Automobile Dealer and Repairer.

### Put Spare Tire to Work.

Automobile tires, like machines, should receive some attention and care before they reach the point of "laying down on the job." A little care in looking over a machine occasionally will prevent trouble, so will a close examination of tires while they are still in good condition enable one to prevent much of the trouble to which tires are heir.

The proper use of the extra or "spare" tire, which every autoist should carry, will enable him to make such examinations and repairs at the proper time. At regular intervals the extra tire should be used to replace one of the service tires and the one removed should be gone over immediately. All cuts, cracks and breaks should be sealed by vulcanizing and the weak places reinforced. According to "Motor," if a car is in constant service, one tire exchange per week and in rotation will enable one to keep all the tires in as good condition as possible. Of course this period depends upon the driver and condition of the roads traveled. By this arrangement, the extra tire will be kept in good repair for emergency calls with the emergencies reduced to a minimum and in most cases the tire mileage will be almost doubled.—A. CAMMACK, Fort Collins, Colo.

### Farm Power Statistics.

Some very interesting and instructive figures, have been compiled by Prof. Phillip S. Rose, of the American Thresherman. This material was reviewed by the Literary Digest, and can be had in pamphlet form. Professor Rose has made an exhaustive analysis of the power problem of the farmers of the country, and is in a position to get reasonably accurate figures. He says in part that the total power plants of the farmers is in excess of that used for all the manufacturing concerns in the United States. His compilation follows:

KIND OF POWER	NUMBER	AVERAGE VALUE	TOTAL VALUE	TOTAL HORSE POWER
Horses and mules	25,411,000	\$111.85	\$2,842,655,000	14,230,000
Harness	20,382,000	10.00	203,820,000	75,000
Windmills	750,000	100.00	75,000,000	4,000,000
Steam tractors	100,000	2,000.00	40,000,000	600,000
Gas tractors	20,000	150.00	150,000,000	5,000,000
Gas engines	1,000,000			
			\$3,311,475,000	23,905,000

He says further that "the total power used in all manufacturing enterprises, according to the 1910 census, was 18,755,286. Even allowing a little margin for possible error, it is thus seen that the farmer's power problem is a large one and involves millions of dollars. Mechanical power on farms is much smaller in amount than animal power, but its use is rapidly increasing." The above figures show that engines supply at present about two-thirds as much power on farms as horses and mules.

The writer thinks that the estimate of gas tractors is too low and that if the true figures were known, the engine power would be nearly three-fourths of the estimated horse and mule power.

### Gear and Magneto Troubles.

A. L., Kanopolis, Kan., writes as follows: My engine heats easily. Has the thermo-siphon cooling system. Something is wrong with the magneto. I can get no speed on high and can climb a hill only on low. Have a new platinum point in breaker box, but the magneto does not work much better. Have recently replaced drive gear of the differential, which had been stripped. There is a constant roar and rumble when the gears are in motion. When starting the car, the transmission thumps and clanks just at the instant of starting and then runs smoothly except for the roar.

The chief cause for the engine heating is to be found in the timing of the spark. The late spark will cause slow burning of the charge, and consequent heating of the entire engine. It may be possible that the entire water system, radiator, engine jackets, and connecting pipes, need a thorough cleaning out, particularly if dirty water has been used. The chief reason, however, for overheating, is having the spark too late for the speed the engine is running. With a thermo-siphon system it is very important that the water at all times fills the radiator, so that the return water pipe from the top of the engine is always covered.

If the advancing of the spark, as above advised, does not cure the magneto trouble, look over the spark plug and all the wiring connections. If the wiring is perfect, and the plugs have no broken porcelains, it is best to remove the magneto, box it carefully, and express it to the makers for repairs. The novice seldom can repair a magneto, and is apt to do it more harm than good. This applies to 90 per cent of the garage repair men as well.

The roaring and rumbling of the drive gear in the differential is no doubt due to the fact that the cogs on the gear that meshes with the new one were scarred and bruised when the old gear was stripped. Probably these cogs were not properly dressed up by the repair man when he put the new one in place. If the rumbling is not excessive, it will probably disappear in time. If it is very pronounced, it is probably responsible for the lack of power of the engine. It can be remedied by having the damaged gear dressed up or a new one put in. The clank and thump may arise from the old gear having parts of cogs broken off. If this is the case, there is a chance for another serious break. The symptoms mentioned can also be caused by an improperly adjusted or a loose bearing. A thorough examination and tuning up of the gear system is apparently needed.

The automatic spark advance not only does the work accurately but it does not forget. If a driver gives proper attention to steering the car, varying the throttle, applying the brakes and watching the road ahead, he will not have much time left to manipulate the spark lever or talk to passengers.

Painting an automobile so that it will look neat and workmanlike is an expert's job. You can easily improve the

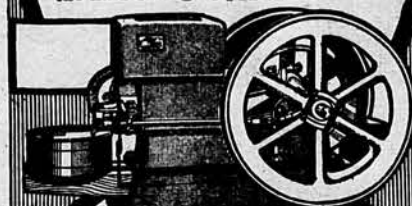
appearance by carefully washing the surface with warm water containing a little ammonia, and then giving it a coat of thin varnish.

The owner who is using vibrator coils will find that any excessive current consumption is due to excessive tension of the vibrator springs. The spring adjustment should be loosened until the motor begins to miss and then slowly tightened again until regular firing is resumed.

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# KANSAS FARMER

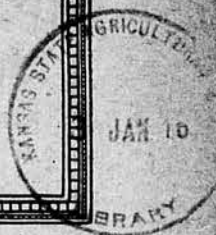
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## FARMERS' WEEK AT TOPEKA.

January 10 to 14 is known as "Farmers' Week" in Kansas. During that week the meetings of the Kansas Improved Stock Breeders' Association and those of the State Board of Agriculture are held. The breeders' meeting is held the fore part of the week, and the convention of the Board of Agriculture begins Wednesday afternoon and continues through Friday. The programs for these meetings cover a wide range of subjects closely related to the breeding of purebred live stock and the progress of the state's agriculture.

At the breeders' meeting Dr. B. W. Murphy of the Federal Bureau of Animal Industry, who is doing such good work in helping clean up hog cholera in Marshall County, will give an illustrated lecture on the making of hog cholera serum and the methods followed in cleaning and disinfecting cholera premises. H. B. Walter, of Effingham, will discuss the development of a utility type of hog. H. J. Cottle of Topeka, who has successfully fitted sixteen herds of hogs for the show ring, will tell how he does it. Plans are under way for the holding of a futurity Poland China hog show in Kansas. William McFadden, secretary of the American Poland China Record Association, will be on the program the afternoon of January 11, to explain the details of this show. This feature should be specially noted by breeders of Poland China hogs. Breeding up the dairy herd will be discussed by C. F. Goldsmith, who now has charge of the herd at the State Hospital. Frank Buzard, and other successful dairymen, will take part in the general discussion of this subject.

Kansas as a breeding ground for purebred beef cattle will occupy one session. Prof. W. A. Cochel, of the Kansas Agricultural College, will tell of the new experiment in beef cattle breeding just started—an experiment that will continue for twenty years. An address on the selling end of the purebred stock business will be given by Fred G. Lap-tad, of Lawrence. C. E. Wood, Clarence Lacey, and other sheep breeders, will tell how to succeed in the breeding of sheep. There will be one session of a general nature, one of the features of which will be an address by Otis E. Hall, of the Extension Division of the Kansas Agricultural College, on the boys' and girls' club work of the state. P. H. Ross, county agricultural agent of Leavenworth County, will tell of his work for live stock improvement in that county.

One session of the Board of Agriculture meeting will be given over entirely to the beef cattle situation. Feeders of cattle are much concerned over the uncertainties of the cattle market. This subject will be formally presented by John A. Edwards, a feeder of Greenwood County. Robert H. Hazlett, of El Dorado, will talk on the breeding of purebred cattle, and E. L. Barrier, of Eureka, will tell how he produces "baby beef." A lecture on the traction engine will be given by Dean A. A. Potter of the engineering division of Kansas Agricultural College, illustrated by moving pictures of traction plowing demonstrations.

The present status of the horse business will be presented by Dr. C. W. McCampbell. Theo. C. Mueller, president of the German-American State Bank of Topeka, will give an address on "The Twentieth Century Farmer and Banker."

At the wheat and corn session on Friday, Prof. George A. Dean and Director W. M. Jardine of the Agricultural College, will speak. Also practical corn growers from various parts of the state will have a part on this program.

Mrs. Jessie Wright Whitcomb, of Topeka, will talk on the possibilities of the rural schools. Mrs. G. H. Mathis, of Alabama, who is on the program, is one of the most valued workers in the South in improving its agriculture and bettering the conditions of those engaged in that occupation. She is an inspiring talker and will have a real message.

It will pay any farmer or stockman to lay off for a few days the second week in January and attend these meetings. No one can fail to benefit by so

doing. These meetings are for the men who till the land and grow and market the crops, and they can do much toward promoting their own interests by attending and taking part in these two state meetings.

## HORSE FLESH FOR FOOD.

New York is getting so hungry for meat that the city will sanction, beginning with the new year, the sale of horse meat for food. There is a scarcity of meat all over this country in spite of our vast resources in live stock production. This move on the part of the City of New York is apparently an effort to help out on this shortage. There may be no valid objection to the use of horse meat as food, but the people of America have a great veneration for this animal and it is our opinion that there will not be any considerable amount eaten unless unknowingly under the guise of other meat.

The shortage of meat is bringing, as a natural result, an increased interest in live stock production. Farmers and stock growers will not be slow to increase the production of meat when it can be done with a profit. The many years in which meat was produced in this country at such low cost—cheaper than it can ever be produced again—spoiled the people, and it is requiring considerable adjustment to become accustomed to the higher prices that must prevail. During this period of cheap meat people formed the habit of selecting and using only the choicest cuts, although these cuts are no more nourishing than the cheaper parts. This confirmed habit of neglecting so much of the carcass of meat-producing animals has had much to do with increasing the cost of living to the consumer. We must learn to utilize the whole carcass to better advantage. Suitable methods of cooking will make the cheaper meat palatable and instruction along this line is now being given all over the country in the schools teaching home economics.

Horse meat may be all right, but we predict that the usual meat-producing animals will continue to supply the meat for people in this country—at least until a new generation has arisen that has been less intimately associated with the horse as a work and pleasure animal.

## POLAND CHINA FUTURITY SHOW.

A futurity show is a most important means of bringing a breed of live stock into prominence before the public. Such shows, wherever held, have resulted in putting to the front the very best animals of the breed. Kansas can have a futurity show of Poland China hogs this year, if the breeders want it. Thirteen states had such shows last year.

At the recent annual meeting of the American Poland China Record Association it was unanimously decided by the stockholders that the holding of futurity shows would be continued and enlarged. It was made apparent at this meeting that the members of this association were working in the interest of the breed and would make association ties subordinate to the general good. There are enough Poland China breeders in Kansas to hold such a show. Secretary William McFadden of the American Poland China Record Association will speak at the meeting of the Kansas Improved Stock Breeders' Association, Tuesday afternoon, January 11. He should be greeted by a goodly number of the breeders of the state. He will at that time explain fully the plans for the futurity show and those who are awake to the opportunities offered to bring their breed into prominence should not fail to be present at the meeting.

## JERSEY CATTLEMEN ACTIVE.

The Southwest Jersey Cattle Breeders' Association is continuing with enthusiasm the pushing into prominence of their favorite breed of dairy cattle. Forty members were in attendance at the annual meeting recently held in Kansas City. The most important piece of work this organization is conducting is that of holding a dairy cattle show at Kansas City, which is the great gateway for the whole Southwest. This show has for

two years been held in connection with the American Royal Live Stock Show, but these Jersey men have a vision of a big independent dairy cattle show that will be conducted in a circuit with such exhibitions of dairy cattle as are held at Waterloo, Iowa, Springfield, Illinois, and at Chicago. Those who have noted the great interest taken in the dairy cattle that have been exhibited at the Royal the last two years can well see how such vision may be realized in the near future.

At the recent meeting the retiring president, F. J. Bannister, urged upon the members the importance of taking early action in securing the co-operation of all the organizations of dairy cattle breeders tributary to Kansas City.

This is a move for advancing the dairy cattle interests that should by all means be encouraged, and we are glad to see this Southwest Jersey Cattle Breeders' Association taking so active a part in mobilizing the dairy forces of this part of the country. The secretary reported that the organization started the new year with 118 members, a gain of sixty-four new members during the year. C. J. Tucker, of Longview Farm, Lees Summit, Mo., was elected president, and J. M. Axley, of Kansas City, secretary-treasurer. F. J. Bannister is president of the board of directors for the coming year.

We are glad to give space on the editorial page this week to the various movements having to do with the promotion of the different lines of agricultural activity in our state. These meetings have a distinct value to farmers and live stock breeders. Kansas, great as it is in an agricultural way, must look forward instead of backward. Too much time can easily be spent in going over past achievements. In no one thing is there greater immediate opportunity than in the improvement of the live stock grown in the state. KANSAS FARMER has always championed the cause of better live stock, and we urge that our readers line themselves up with the various movements looking to better things for the future.

## ANGUS MEN MEET IN TOPEKA.

Angus cattle breeders of Kansas have decided to do more co-operative boosting for their breed in this state than they have done before. An active, aggressive state association is to be formed. In fact, a temporary organization was effected at the American Royal last fall. Wednesday afternoon, January 12, 1916, immediately following the adjournment of the annual meeting of the Improved Stock Breeders' Association at Topeka, a meeting of the Angus men will be held in the office of the secretary of the Kansas State Board of Agriculture. The men who are interested in this movement are planning to make the organization of equal value to the breeder and to the one who grows grade stock for market. The common interest should make this co-operation between breeder and grower of benefit to all.

Kansas is coming into a new era in beef production and we would urge that all interested in Angus cattle attend this meeting and that they come early enough to attend the sessions of the stock breeders' meeting.

## OLEOMARGARINE OUTPUT.

The output of oleomargarine in the Chicago district for the month of November shows another large falling off from the same month a year ago. The output was 138,260 pounds of colored and 7,788,040 pounds of uncolored, or a total of 7,926,300 pounds against 173,910 pounds of colored and 9,218,736 pounds of uncolored, or a total of 9,392,646 pounds for November last year, a difference of 1,466,346 pounds. This is a greater falling off than was shown in October figures. The output for the month of October was 111,961 pounds colored and 7,558,292 pounds of uncolored, or a total of 7,670,253 pounds.

The output of renovated butter in the district for November was 1,178,600 pounds against 1,418,104 pounds for the same month a year ago.

## WORK ROADS AT RIGHT TIME.

Some of the counties of Kansas are going at the road-working problem in a thoroughly businesslike manner. The maintaining and building of roads is being put in the hands of men who are specialists in road building. This is in line with modern progress in other directions. The farmer no longer makes his own shoes, his clothes, nor the many other articles that he made for himself in the olden times. In the building of roads, however, this change has not been made. Farmers generally are expected to make their own roads. Some progress has been made in recent years, but even with better road laws and better organization it has been a difficult matter to get road work done as it should be and at the right time.

The dragging contracts that have been made have in many cases not given the results that should follow placing this work on a business basis. Too often this work has been done when most convenient to the man contracting to do it. Reno County has recently prepared a form of contract that should insure the work being much more efficiently done than it has been in the past. Those who enter into contracts with this county to drag roads the coming year will agree to do the work when necessary and only when necessary. The contracts require that they keep the entire road smooth so that two vehicles can easily pass, that they keep it sufficiently crowned to drain, avoid bumps at culverts, maintain smooth approaches to bridges, and keep the ditches clean. These points are all specifically covered in the contract, and it is stated that any work with drag or grader which leaves any part of the road in such shape that travel is compelled to leave the middle of the roadway, will be considered improper work, and such places must be gone over until they are in condition for travel.

The preparation of such contracts will be of little avail, however, if their terms are not rigidly enforced. In this county those signing contracts to perform this work are to be required to give sufficient bond to insure the fulfillment of all the terms. This is a most businesslike way of handling the road-making problem. The county engineer is the individual who will be held directly responsible for the kind of work done, and those who pay the tax money for road work will know whom to charge with any failures to get results. Taxpayers generally are not unwilling to pay their money for road building providing they get adequate returns for the money expended. Much money has been wasted in road maintenance and we trust this Reno County plan, with the iron-clad contract, will bear fruit and bring about greater efficiency in road maintenance.

## EDWIN SNYDER DIES.

With the passing away of Edwin Snyder, Kansas loses one of her foremost citizens. For many years Mr. Snyder has been prominent in the agricultural development of the state. He engaged in farming and stock raising in Jefferson County at an early date, and there reared his family of four sons and two daughters. He represented his county in the legislature and has served faithfully on the Board of Agriculture, being for a long period of time its treasurer. His wise counsel was always sought by those interested in promoting agricultural progress in the state. He was blind during the latter years of his life, but this affliction in no way lessened his interest in public affairs. Through the devotion of his wife and family he was able to follow closely those things in which he had been interested earlier in life. He was a life member of the State Horticultural Society and was always in attendance at its annual meetings up to the one held a month ago. Mr. Snyder's humor and kindly wit were always in evidence, and a shadow will be cast over the coming meeting of the State Board of Agriculture because no more will he sit among the members and counsel with them in their deliberations. His death occurred December 24, 1915, at his home in Topeka, where he had lived since retiring from active farm work.



# GOOD ROADS BENEFIT ALL

By W. S. Gearhart, in Nineteenth Biennial Report, State Board of Agriculture

**A**N intelligent business man or manufacturer seeking a location for his plant gives first consideration to the means for transporting his products. Farming is a business, and the farm is the plant. The product of the business must be transported, and the farmer, as much as any other business man, needs to consider the means of transportation. A road system is one of transportation, just as a line of boats or a railroad system is a system of transportation.

Good roads are so important to the financial, social and educational well-being of the community that no enumeration of their advantages is likely to include all the benefits. Extending in various directions they form the arteries of the life of the town or community. They are the currents of traffic, and as such their condition frequently means the profit or loss on the sale of produce and determines the ability of one community to compete with another.

Good roads benefit more people than any other public institution. The road problem is not a local matter for the road districts or townships to handle. A good road is a universal public benefaction. There is not a single member of the community who does not receive advantage and pleasure from it. It is the most democratic of all public institutions. A courthouse is for records and litigation; an asylum for the infirm; a jail or penitentiary for criminals; a park for recreation; a school for instruction; a church for worship; a hotel for wayfarers; but a good road is for everybody, saint and sinner, man, woman and child, young and old, rich and poor—all have a share of the benefits of a good road, and there are not the only beneficiaries, for the road is not alone for the use of those living in the locality. Any person living in any part of the world has an equal right with every other to use the highway, and the introduction of the automobile has extended the use of the public highways more than ever before.

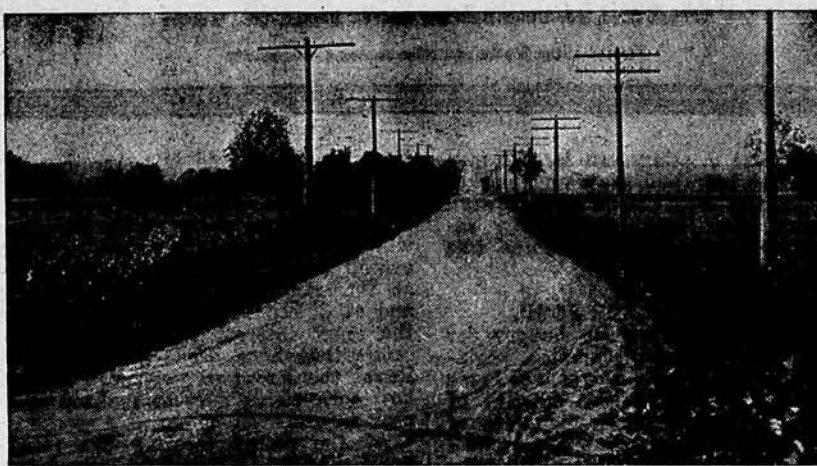
Good roads add to the social advantages. The paved street and the white way abruptly terminating at the city limits in a mud road with unsurmountable culverts and bridges, will do more to stratify society and to encourage the best boys and girls to leave the farm than anything else. Improved roads strengthen the country church, tend toward better living, and bring a good class of citizens into the community, and help to hold a fair share of the best boys and girls on the farm, for they permit easier intercourse between the people of the farms and the people of the cities. Good roads also encourage the extension and improvement of the rural mail and parcel post service.

#### IMPROVED ROADS AND BETTER SCHOOLS.

Good roads make it possible to have better educational advantages for the farm boys and girls. Improved roads and good schools are the two institutions on which we must largely depend for whatever success we have in perpetuating the principles of democracy upon which our forefathers founded the nation. The colleges, universities, normals and city schools have received most of the benefits of the educational progress made in the last twenty-five years. The city schools are well organized and well equipped, but many of the rural schools, where more than sixteen million of our future citizens are studying, and where eight per cent of the farmers and farmers' wives of tomorrow are to receive all the education they will get, are no more efficient than they were twenty-five years ago. Part of this lack of progress in the rural schools may be directly attributed to bad roads. Good roads have always been closely associated with the necessity for developing a good system of rural schools. In the five states of the Union which have the best system of public highways, the average length of school year is 180 days. In the five states that have given the least attention to road improvement the school year is less than half that long. Of equal significance is the fact that in the state with improved roads the average daily attendance is 78 per cent, while in the states with unimproved roads it is 59 per cent.

The efficiency and economy of consolidated schools properly managed can not be questioned now, but the success of the consolidated school depends almost entirely upon the condition of the public highways.

The American Magazine recently pub-



**G**OOD roads benefit more people than any other public institution. They add to the social advantages and make it possible to have better educational facilities for the farm boys and girls.

Good roads facilitate the hauling of farm products to market, they greatly reduce the cost of transportation and thereby decrease the cost of living.

Good roads increase land values, they give wider choice of time for the marketing of farm products, and tend to equalize the farm business between the different seasons of the year.

The gravel road shown in the cut is in Shawnee County between Topeka and Silver Lake. It is good the year round.

lished the following article, showing the effect of no roads upon the mountaineers of the South:

"Since the days of Daniel Boone they have not changed. We heard of these mountaineers in the Civil War—and then forgot them. Half a million splendid Spartans in the worst of bondage for more than a century.

"There are no schools because there are no roads; no roads, because there are no taxes; no taxes, because there is no money—and no possible interchange of commodities, because there are no roads."

#### GOOD ROADS REDUCE MARKETING EXPENSE.

Good roads facilitate the transportation of products. The farmer uses his own road over which to reach his market or rail or water transportation, a hundred times to every one time of any other means of transportation. All his marketable products must pass on wagons or motor trucks over the highways. A good highway permits him to haul double what he could over a bad one, thus enabling him to market a crop in one-half the time, or it places him one-half the distance nearer the market. Distance is now measured in time and not in miles.

Good roads reduce the cost of transportation. The cost of transportation by water is about one-fourth cent and by rail about four-fifths cent per ton per mile. On a well improved public highway the cost of hauling is from five cents to twelve cents per ton mile, and on an ordinary road from twenty cents to fifty cents per ton per mile. The average cost of hauling farm products in the United States is twenty-three cents per ton per mile. A careful investigation in Kansas has shown that the weight of the average load of farm products is 2,960 pounds, the average length of haul to market is five and five-tenths miles, the average time required to make a round trip is four and five-tenths hours, and the average cost of hiring a driver and a two-horse team and wagon for a ten-hour day is \$3.50, and this gives an average of twenty-one and five-tenths per ton per mile, or about thirty times as much as by rail.

Even though our natural highways are the best in the world and most of the hauling is done when the roads are in first class condition, and a large part of the products are cereals, which materially increases the average load hauled, the cost of hauling is only one and one-half cents per ton lower than the average for the United States. There are about eleven million tons of farm products marketed over the public highways of Kansas annually, at a cost of about thirteen million dollars. If the size of the loads hauled could be increased and moved faster at a time when motive power on the farm is cheapest and when

prices of farm products are highest, a very material saving could be made in the cost of highway transportation. To haul larger loads faster and cheaper simply means that the road surface must be made smoother and harder for a larger part of the year.

If the cost of hauling were reduced only two cents per ton per mile in Kansas, it would mean a saving to the consumer or an increase to the farmer of nearly \$1,500,000 per year.

#### ROADS INFLUENCE REAL ESTATE VALUES.

Good roads increase land values. Investigations of the United States office of public roads show that good roads increased land values on an average of nine dollars per acre. There are many examples in the state where an outlay of from one to four dollars per acre for improved roads has increased the land values from ten to fifty dollars per acre.

These enhanced land values due to good roads are permanent, and are not mere fluctuations. If it were not a fact that the benefits from good roads are worth more than the cost of improvements, then prices would soon drop back to the old basis.

Good roads give a wider choice of time for marketing crops. If the roads were kept in a condition to permit travel and the hauling of products at all times and in all kinds of weather, the farmer would not have to rush his produce to market in seasons of good roads, but could haul it at those seasons when prices were highest and at such times as his crops did not demand his attention, and thus economize his time and motive power. Good roads enable the producer to watch the markets and not the condition of the roads.

Good roads tend to equalize farm business between the different seasons of the year. Regularity of the city market depends much upon the condition of the country roads. How often is the consumer in town, upon finding the prices of butter, fruit, eggs, vegetables, etc., doubled, informed by the merchant that it is because the farmers could not get into town with their produce owing to the condition of the roads. Observations made in a Middle West state showed an unsteady market varying with the conditions of the roads.

Complaints are often heard regarding the low price of grain when the farmers are sure the prices will go much higher before the season is over. Yet the farmer knows that he must sell when the roads are good or he may be forced to hold until the following summer. The grain commission merchants are equally well aware of this fact, and are strongly tempted to refrain from offering more before bad weather sets in, knowing full well that the bulk of the crop will be forced upon the market before the roads get bad.

The cultivating of any crop requiring a steady, regular marketing, such as gardening, is greatly handicapped by unreliable roads. Berry and fruit growing depend upon an even and reliable roadbed. Bad roads are a drawback to the dairy business and almost a barrier to the successful operation of cheese, butter or condensed milk factories, which require a regular daily supply of raw material.

As evidence of the benefits of improved roads in intensive farming, we find that in the great dairy country north and west of Chicago, in Illinois and Wisconsin, 60 to 80 per cent of the roads have been surfaced with gravel. New Jersey is one of the foremost states in road improvement, and is noted for its truck gardening and large production of canned goods.

#### ROADS AND HIGH COST OF LIVING.

Good roads reduce the high cost of living. According to the report of the Interstate Commerce Commission, the yearly freight and express bill of the American people is in round numbers two and a half billion dollars. This is an average of about \$125 for each family in the United States, or approximately one-fifth of the total cost of living of the average family goes to pay for freight and express charges.

A part of this shipping is waste, because unnecessary. We demand California and Florida fruit, Wisconsin cabbage, Minnesota potatoes, Wisconsin and Illinois dairy products, and New Jersey canned goods, and let home-raised products that would answer as well, waste.

Good roads the year round from the farm to the market will eliminate this waste. They will also educate the farmer to cater to the demands of the local community and to educate the consuming public to use, whenever possible, home-produced materials instead of discriminating against them as is now done in many instances.

Grain elevators built on the farm where the land is cheap, and co-operative cold storage plants at the local markets, will very materially reduce the high cost of living, and the success of these elevators and cold storage plants depends upon the condition of the public highways throughout the year.

#### January Farm and Home Meetings.

Below is given a list of the Farm and Home Institutes to be held in Kansas during January, 1916, as announced by Edward C. Johnson, dean of the Division of Extension, Kansas Agricultural College, Manhattan:

January 6-7, Elmont; 8, Centralia; 10-11, Morrill; 12-13, Seneca; 17, Hanover; 18-19, Washington; 20, Greenleaf; 21-22, Clay Center. Speakers: Carl P. Thompson and a domestic science specialist.

January 6, Ogden; 7, Hope; 8, Lost Springs; 10, Wiley; 11, Burdick; 12, Saffordville; 14, Quenemo; 15, Neosho Falls; 17, Humboldt; 18, Thayer; 19-20, Chanute; 21-22, Iola. Speakers: A. R. Losh and Miss Marion Hepworth.

January 6, Norwich; 7, Goddard; 8, Cunningham; 10-11, Medicine Lodge; 13, Mount Hope; 14, Haven; 15, Sedgwick; 17, Burrton; 18-19, Halstead; 20, Walton; 21-22, Newton. Speakers: George O. Greene and Miss Louise Caldwell.

January 6-7, El Dorado; 8, Douglass; 11, Moline; 12-13, Howard; 14-15, Sedan; 17, Cedarvale; 18, Grenola; 19, Burden; 20-21, Winfield. Speakers: Ross M. Sherwood and Miss Alice Poulter.

January 6, Haviland; 7-8, Pratt; 10-11, Greensburg; 11-12, Minneola; 12-13, Liberal; 13-14, Meade; 15, Fowler; 17, Bloom; 19, Bucklin; 20, Mullinville; 21, Arlington; 22, White City. Speakers: G. E. Thompson and Miss Stella Mather. Lee H. Gould from the tenth to the fifteenth.

What do the past season's results mean to you? If they were highly satisfactory, they should mean not only better equipment outside, but inside the house as well. If they were poor, can you not see where the plan followed can be improved upon another year?

Farm surveys show that the families living on their own farms generally consume more food per year than do families living on rented farms.

The best tools go soon enough. Ounces of grease save dollars in repairs. The seeds of rust and decay bring a harvest of loss to the farmer.



# HELP IN HOUSE BUILDING

By Prof. W. A. Etherton, Department of Rural Agriculture, K. S. A. C.

**B**ETTER rural homes will be one of the important factors in stopping the exodus from the farms to the cities. Scores of inquiries are being received from farmers and others who are interested in the work that has been undertaken by the department of rural architecture.

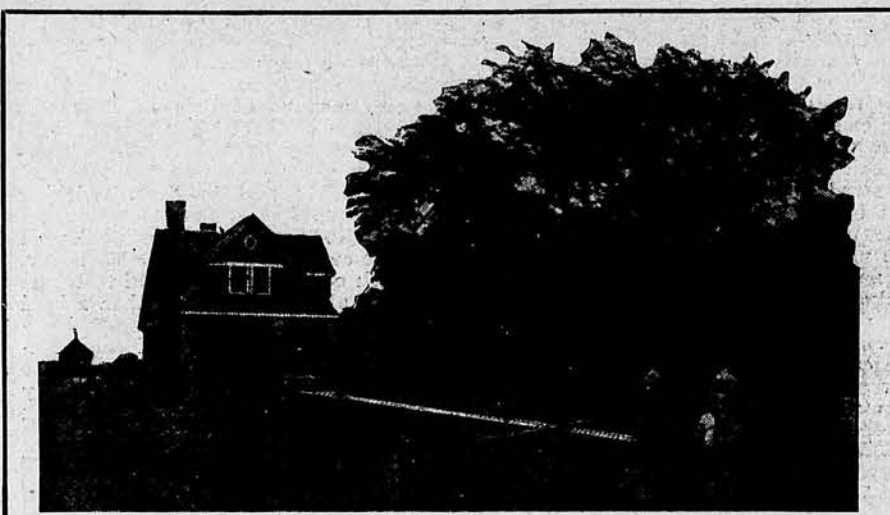
Notwithstanding the great advancement in agriculture and the many mechanical improvements that have been made, the farmer has never had his attention directed particularly to the subject of home buildings, and he has no reliable source of information and aid in the matter when most in need of it. On numerous other subjects of less importance, he can find the results of extended research and command without cost the assistance of experts; but, regardless of the fact that we have established and are maintaining at great cost numerous agricultural colleges, none has hitherto provided for this urgent need.

## FOSTER SENTIMENT FOR HOME.

If, as has been said, "the home is the cradle in which is molded the character of the nation," and if, as has been urged, the purpose of our school system is to make good citizens, then it behooves us, as an educational institution, to begin in the home to perfect there every influence within our power that counts in creating and fostering a genuine sentiment for home. The house with its furnishings, although not the most potent factor in molding the character of children, has a far reaching influence, and it is undoubtedly of prime importance in decision by the young to remain on the farm, or to enjoy the comforts—as it appears to them—of city homes.

Is it not then, the duty of the state and federal governments to interest themselves as much or more in the housing of the family than in the problems of greater and better crop production and the care of live stock? Is it not as important to devise plans for shortening the thoroughfares and for decreasing the labor of housewives as it is to learn how to build good roads and to lighten the burdens of animals? Are not the health and the comfort of country folk as worthy of being promoted by improvement in farm building as are the health and the comfort of dairy cattle, sheep, and hogs?

Let this important work be taken up and men be placed in charge of it who will familiarize themselves with the par-



GOOD HOUSES HAVE THEIR PART IN KEEPING THE YOUNG PEOPLE INTERESTED.—THE CUT SHOWS HOUSE ON DORNWOOD FARM, SHAWNEE COUNTY

ticular needs to be provided for; and then, by illustrated lectures, bulletins, institute discussions, and answers to specific inquiries, let them reveal to the farmer the possibilities for improvements in farm buildings and thus accomplish what we might expect from the manufacturer if suitable buildings could be manufactured and sold at a profit like farm machinery.

The work carried on in the Federal Department of Agriculture has been specifically indorsed by the American Institute of Architects. It is doubtful, however, whether the average architect realizes that the most formidable objects with which we now have to contend in attempting improvements in rural architecture, are the men and women for whom he designs modern, city, and suburban residences. They are the absentee land owners—for instance, the merchant, the lawyer, the banker, the widow legatee, and in some cases, the college professor. These absentee land owners have seemingly failed to comprehend the fact that better housing of employes would pay as well, if not better, in agriculture than in other industries. As they control about one-half the farm land of the United States, it is evident that they constitute an important factor

that must be reckoned with in any movement for rural improvements.

Happily for Kansas, the greater number of farm homes here are owned by the farmers. To one who has studied rural conditions in other states where tenantry predominates, the difference, there and here, is more than apparent. It was here that some of the best examples of farm buildings have been found. It was here that the writer obtained some of the most valuable information on, and found the keenest interest in farmstead improvements. It was here that he found good barns, but also houses that are just as good as the farmer knew how to make them with the money that he could consistently spend upon them. Kansas is a comparatively new state, many of its farmsteads are not yet permanently built, the farmers are progressive and able to make improvements, and the spirit for better rural homes is abroad in the land.

This spirit for better farm homes is now in the Kansas State Agricultural College, and it is to be hoped that it will, ere long, permeate this student body and, through it, every rural community in the state where it has not manifested itself. The day is not far distant when the town girl will think better of the

farm will better appreciate his heritage, farm home, and the young man with a Kansas stands today, first among the states in repelling the worst enemy of the home; and may it stand tomorrow foremost in its efforts to make the farm home what it can and of right ought to be—one of the best and the happiest in the world.

## PRACTICAL HELP NOW AVAILABLE.

This is not the dream of a visionary. It is well within the realm of possibility; and now, that this college has taken practical steps toward its attainment, it should be more than possible—it should be probable. These practical steps do not consist of platform efforts, nor of newspaper propaganda, of which there has been a goodly amount. The department of rural architecture will endeavor to furnish the architectural assistance necessary to the attainment to higher ideals in rural homes and in the improvement of outbuildings and grounds. Beginning thus to furnish the farmer with expert assistance in the improvement of his farmstead, comparable with the assistance furnished along the many lines of agricultural production, we begin, in the most practical, agreeable, and effective manner, to improve farm home conditions and possibly to turn the tide of immigration back to the land.

The influences that count for the betterment of humanity are so many, so varied, and so subtle and obscure, that it is quite impossible to assign definite values to any one of them, but there can no longer be any question as to the great importance and the necessity of improving the housing conditions of the great mass of humanity in both city and country. In the attractiveness of the home lies the true solution of many evils, and every influence upon the home counts for weal or woe in our national life. Foster love for the home, and there will result an unshakable love for country; stifle it, and anarchy will walk abroad. Study the problems of the home as carefully as the science of war and expend upon them funds as great as those spent upon our armed defense, and we will have a citizenry so strong in body and mind, so prosperous and so loyal as to be invincible to any foe that might then assail us. Better housing in city and country, is of vital importance to the nation's welfare. It has become a problem for statesmen and for the promotion and support of governments.

## Feeding Brood Sows

**S**KILL in the feeding and management of the brood sow is the foundation of all success in pork production. Poorly fed and poorly managed sows mean weak and puny pigs. Without a good start in life, a pig stands little chance of growing into a thrifty shoat such as will make money for its owner. In no phase of pork production is it so easy to err as in the feeding of the growing gilt or pregnant sow. It is so easy to throw out a few scoops of corn to the brood sows and gilts and far too many of them are fed in this way. Corn is so much more plentiful in Kansas this season than for several years past, that there is even more danger of its being fed to brood sows in excess, than in ordinary years.

The pregnant sow needs plenty of protein in the ration. It requires an abundance of this to grow a litter of pigs. Corn is too fattening and corn-fed sows will get fat and sluggish. The pigs will be born weak and puny and the percentage of loss is certain to be high. There is no money in keeping a lot of brood sows around raising twins and triplets. While the size of the litters farrowed is largely a matter of breeding, improperly fed sows even though prolific through inheritance will many times save only a very few pigs. The hog man should first of all learn to feed his sows the kind of ration necessary to keep them in the most vigorous condition. It is only by so doing that he can hope to produce the kind of pigs that will render a good account of themselves in the feed lot. There is nothing more discouraging than to have the sows farrow a lot of puny, squeaky pigs, that haven't life enough to let out a genuine squeal.

It is not necessary to keep brood sows thin in flesh, in fact they should be carrying considerable weight at farrowing time. The feeder who depends on corn

alone is likely to cut down on the amount fed when he sees the sow getting too fat. This does not improve matters, for they are already getting starvation rations from the standpoint of producing growth or development. Reducing the amount of corn fed is of no advantage unless a properly balanced ration is substituted for it. On the alfalfa farms of Kansas there is little excuse for improper feeding of the pregnant sow. The supplying of all the good alfalfa hay they will eat during the winter season will insure strong, vigorous litters. In the feeding of mature brood sows during this period, an abundance of leafy alfalfa hay with a limited amount of corn, is almost an ideal ration. They should be so fed as to

gain in flesh as they approach farrowing time. If good alfalfa cannot be supplied, such feeds as bran, shorts, oats, and a little tankage or oil meal, should be fed. Some feeders like to use corn and oats in equal parts even when alfalfa is fed.

Bred gilts must be fed with even more care than mature sows, since they not only have a litter to develop but must finish their own growth. These, by all means, should be supplied with a variety of feeds such as will furnish an abundance of protein and mineral matter.

The important point of this discussion is that proper judgment must be exercised in feeding corn to brood sows. The folly of exclusive corn feeding has

been experimentally shown at nearly all of our experiment stations. In a recent trial at the Iowa station, one lot consisting of five gilts was fed three and six-tenths pounds of ear corn daily, while other lots were fed ear corn with meat meal, ear corn and a mixture of oats, bran, middlings, and oil meal, shelled corn with cut clover hay and molasses, ear corn and clover hay, and ear corn and alfalfa hay. At the same time four lots of yearling sows were fed trial rations. One received ear corn alone; the others ear corn supplemented with meat meal, linseed meal, and alfalfa hay. Both the gilts and the yearling sows fed corn alone, farrowed pigs that were lighter in weight and less vigorous than those farrowed by the gilts and sows fed balanced rations. It is specially noticeable that the gilts fed clover or alfalfa with corn made good growth during the gestation period and farrowed large, strong pigs. At the North Platte sub-station in Nebraska, a series of trials showed that mature brood sows averaging 340 pounds in weight could be carried through the winter satisfactorily on an allowance of one and one-tenth pounds of shelled corn daily to every hundred pounds of weight, and all the alfalfa hay they would eat. The cost of such ration was less than that of a mixture of half ground corn and half chopped alfalfa.

Not only must the ration be right, but the general management must be such as tends to keep the sows in the best physical condition possible. The yards and sheds must be kept clean and sanitary. The sows must be encouraged to take plenty of exercise. If they must be confined closely they can be given exercise by scattering oats on a feeding floor or on the dry ground. The picking up of this grain will keep them on their feet some time each day.



FARMERS MUST KNOW HOW TO FEED AND MANAGE BROOD SOWS IF THEY WOULD FILL FEED LOTS WITH GOOD HOGS.—CUT SHOWS SCENE ON ROBISON FARM, BUTLER COUNTY



# GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

**A** READER, in sending in his renewal order recently, says he has asked questions and never received answers. This must be an exceptional instance, for there is no rule more rigidly followed by the editors of KANSAS FARMER than that of giving careful consideration to every inquiry received. The questions asked are the best guide we have as to our readers' problems. We cannot answer all questions by mail, but do so when stamps are enclosed, and in some instances where the information is needed at once to be of any value, we reply by mail whether stamps are enclosed or not.

There is one rule our correspondents should always follow in asking for information, and that is to address all letters of inquiry to the editor. Requests for information should not be written in letters pertaining to other matters. Each department has numerous letters daily relative to its particular work, and a paragraph which relates to a subject foreign to that department, in one of these letters, might be overlooked and at best will be delayed in reaching the department for which it was intended.

Letters of inquiry should be addressed to the editorial department, only. By so doing, your questions will receive prompt attention.

## Rusting of Wire Fences.

F. W., who has lived nineteen years in Kansas, writes from Pennsylvania to ask why the wire fences in that state are all so rusty, many being almost ready to fall to pieces. This correspondent states that he never saw any rusty galvanized wire fences in Kansas or anywhere else in the West.

This letter brings up a question of considerable importance. With the expansion of the wire fence business some years ago, it soon became apparent that the wire being sold was very short-lived. Some of these new fences rusted out in a very few years, while fences made of the old-fashioned iron wire that had been up for a good many years, were still in good condition. These newer fences were generally giving such poor results from the standpoint of durability that the Federal Department of Agriculture made quite an extensive investigation to find the cause for the rapid rusting out of this wire. The results of these investigations were published in a bulletin of the Department of Agriculture. The trouble was due to the fact that in the making of this wire the steel used was made by modern cheap methods and the resulting product was extremely susceptible to rust. Even the coating of the steel with the galvanizing material was not sufficient protection unless it was unusually well made.

It is our guess that the Pennsylvania fences were made at the time when so much of this inferior wire was being sold. Much improvement has since been made in the quality of the wire used in the making of fence material. Many manufacturers are using open hearth steel instead of the Bessemer steel.

By securing literature from the various wire fence companies, it will be found that nearly all of them are following methods that produce a fence that does not rust out as did the ones so extensively put up a few years ago. Methods of galvanizing have been perfected, and the wire fencing now sold is far more durable than when the first big expansion in fence-making took place. Probably most of the wire fences our correspondent has observed in Kansas were made of the better material. Of course, it is also likely that the Pennsylvania fencing has been built much longer, as that state is older in its development.

It is a matter of considerable importance that better fencing material is now being made. It may cost a little more, but a fence that rusts out in three or four years is expensive at any price. Proper fencing is a very necessary improvement on a live stock farm and much of it will be done in the near future. A careful study of the different fences now on the market should by all means be made by those who are planning to build.

## Making Hog Trough.

T. P. M., Sedgwick County, asks if it is possible to make a hog trough that will not come apart at the ends in a short time.

The ordinary method of making troughs for feeding hogs is to simply nail a short piece of board or plank across the ends of the two planks nailed

together in the shape of a "V" for sides. In a very short time the nails holding this end piece work loose and a leaky trough is the result. After re-nailing a few times it will be impossible to keep the ends in place at all.

A much stronger and more durable trough can be made by sawing a three-cornered piece to fit the inside. Nails can be driven through the ends of the side planks into this inside piece and the usual board across the end can also be nailed to it, clinching the nails. This makes the ends double, and being nailed from two different directions it is impossible for the end to work loose as is the case with the single-end trough. It is a good plan to apply a coating of lead between these pieces that come together.

fifty-five ewes which were kept through the year exclusively on pasture during the summer and on a twenty-acre field of wheat during the winter, except for a small amount of corn in February, taking care of them. The returns were March and April, about lambing time. The only other cost was the labor of seventy lambs sold in June, weighing seventy pounds each, at \$8.25 a hundred pounds, \$404, and \$121 worth of wool from the ewes, total \$525, or \$9.55 a ewe.

A flock of breeding ewes will thrive on roughage alone much better than a herd of breeding cows. Under average Kansas conditions, according to Doctor McCampbell, eight breeding ewes can be maintained upon the pasture required by one cow. There is no kind of live stock

organ, once daily, three gallons of a lukewarm two per cent solution of bicarbonate of soda. The last injection should be one-half hour previous to service.

"More frequently sterility is due to a diseased condition of the ovaries. These latter organs become cystic or they retain a small, round, yellow body which is known technically as the corpus luteum. Cystic ovaries must be crushed by hand through the rectum or wall of the vagina, sometimes several times, or if a persistent corpus luteum is found to be present, it must be removed in the same way. This work is of a technical character and a competent graduate veterinarian should be consulted."

## False Selling Price on Boar.

We were recently asked if we thought it legitimate for a breeder to sell a boar at private sale in advance of a public sale, arranging with the buyer to run the boar up to a high price when he went through the sale ring.

No really honest man—buyer or seller—will countenance such practice. The only purpose of such transaction is to create a false impression in the minds of people generally as to the hog's real value. Its purpose is to defraud by leading others to pay more for some particular line of breeding than it is worth. The very fact that it must be done secretly brands it as a crooked deal. Some temporary advantage might be gained, but if such practice became at all common, buyers would soon lose all confidence in public sales of live stock and the cause of pure-bred live stock would receive a serious set-back.

## Cutting Pork on the Farm.

In killing hogs on the farm it is best to plan to butcher at the beginning of a cold spell.

The leaf fat should be removed while the carcass is warm in order that the meat may chill quicker. You cannot possibly cut the meat into neat, shapely pieces while it is still warm, so let the carcass hang for the night where it will cool thoroughly, but not freeze.

Remove the head at the first joint, cut the ribs very close, and take out the backbone. The man who has had a little experience can do this entirely with a knife by cutting where the rib joins the backbone. If the cutting is done with an axe or cleaver, splinters of bone are likely to get into the sausage meat. In removing the spare ribs, keep the knife against the rib bone all the time so as to leave the surface of the bacon in better shape. Leave the cartilage ends of the ribs in the bacon.

Cut the hams through the joint square with the carcass and leave them shapely and uniform. Remove all excess fat for lard, and expose plenty of lean meat to the action of the brine or dry mixture used in curing. Skin very fat hams after they have been closely trimmed, leaving the skin only around the shank. Cut off the foot at the hock joint. Take off the shoulder just back of the blade and trim it into a square, blocky piece. If you want much sausage make a small picnic shoulder of the lower half, and work up the upper half for sausage and lard.

The whole side may be cured, but it is better to take out the loins and use them fresh, fry them down in lard, or make sausage of them. Render the back fat into lard and trim the rest of the side for bacon. The cheeks or jowls may be cured as bacon or used for sausage or lard.

If the weather is mild and the loins can be sold or used fresh, split the carcass while warm. After the half carcasses are well chilled cut off the hams, and separate the shoulder from the side by cutting through between the third and fourth ribs. In cutting the neck bone including three ribs from the shoulder keep the knife close to the bone so as to leave a well-shaped shoulder. With the ham and shoulder removed, the side should be cut so as to separate the loin piece from the bacon. Saw through the ribs two or three inches from the backbone; finish with the knife. Trim off the back fat from the loin which now is ready to be used for loin roast or for pork chops. Remove the spare rib from the lower part of the side which is to be trimmed up for bacon.—Press Bulletin, Missouri Experiment Station.

"Wind," wrote a little boy in his composition, "is air when it gets in a hurry."

## PROFITABLE COW FAMILY



**T**HIS cow and her two daughters here shown are the property of H. W. McAfee & Son, Shawnee County. The old cow gives from 60 to 65 pounds of milk daily for the first three months following freshening, and continues in milk for eleven months of the year. The first heifer gave over 9,500 pounds of milk during her first lactation period of eleven months. The second heifer freshened at twenty-four months of age, and gave 10,000 pounds of milk during her first lactation period, milking eleven months.

The old cow has three other daughters younger than the two shown. These are all marked like the mother. While giving milk, these cows are fed one pound of grain to every four pounds of milk given, the grain consisting of a mixture of four parts corn chop, two parts bran, and one part cottonseed meal. They are given for roughage 40 pounds of corn or kafir silage daily and all the alfalfa they will eat. During the day they have a well lighted and ventilated shed in which to run and where they can eat alfalfa and be protected from storms.

During the summer time when pasture is at all scarce they are fed all the silage they will eat, and the same grain ration is fed the year round. It is the custom on this farm to begin feeding the cows a small amount of grain about a month before freshening. This is gradually increased so that by the time they are fresh they are ready to begin milking heavily.

This makes them water-tight and prevents decay. A trough two feet in length is a convenient size for feeding a single hog, as a boar being kept by himself. For general feeding, eight or ten feet will be a good length. If made much longer they are too heavy for one man to handle conveniently. By nailing strips across the top of the trough there will be less trouble from the stronger hogs crowding out the weaker ones. This makes the cleaning of the trough a little more difficult, however.

## Skunk Farm.

An Iowa reader wishes to start a skunk farm and writes for information.

Most people prefer to give these animals a wide berth, but their fur is valuable and some have made a business of growing them for profit. We are unable to give our reader addresses of any skunk farms, but would suggest that he and others interested in this phase of fur production, write to the Federal Department of Agriculture for bulletins on skunk farming.

## Kansas Should Breed More Sheep.

Sheep raising is a line of live stock production that is being overlooked in Kansas. It offers as high a return on the investment as can well be desired by any self-respecting citizen.

Greater proportionate profits can be made on a small flock than on a larger one, besides offering more security from losses through inexperience of the beginner, or from unpreventable sources. A band of say fifty ewes on a quarter section farm can be maintained through the year at a very small cost. Dr. C. W. McCampbell, assistant professor of animal husbandry in the Kansas State Agricultural College, is quoted in a pamphlet issued by the college this year as saying that he knows of a band of

that is ready to leave the farm at such an early age as lambs, and at the same time brings such high prices. A very large percentage of the farms of Kansas could handle a flock of breeding ewes with surprisingly good results.—J. A. RICKART.

## Ventilating Poultry Houses.

S. V., Johnson County, asks how to provide ventilation for a poultry house in such manner as to avoid having direct drafts on the fowls while on the roosts. The house in question has glass windows on the south side and no openings at all in the back.

It is very important that good poultry houses be well ventilated, but direct drafts are always dangerous. The best and simplest way to provide fresh air without draft is to put a muslin-covered frame in the place of one of the glass windows. The best types of poultry houses now in use are constructed with a partially open front into which a muslin-covered frame is fitted. The cloth permits air to pass through slowly but avoids the possibility of a draft.

## Sterility in Cow.

G. R., Harvey County, writes that he has a three-year-old heifer that he cannot get with calf. He has bred her to three different bulls and has used vaginal washes before breeding. He asks for advice. We submitted this inquiry to Dr. R. R. Dykstra of the agricultural college. His reply follows, and will be of interest to other readers as well:

"There is no known drug that will cause animals to conceive in case they are sterile. If the sterility is what is known as the temporary variety it may sometimes be successfully treated.

"Temporary sterility may be due to an acid condition of the vagina. This may be overcome by injecting into this



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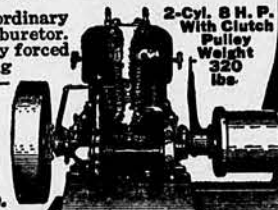
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## A Granger's View of Rural Credits

MUCH has been said and written in regard to rural credits, and a number of bills introduced in Congress having for their object government aid for the farmer. Various commissions have been appointed to investigate methods and plans in use in European countries and to study the needs and conditions existing in our own rural communities.

Although bills providing for some system of rural credits were introduced in Congress as long ago as June, 1913, nothing has been done in the way of legislation, and I greatly fear nothing is intended by the real leaders in Congress, unless a very decided effort is made by farmers at once.

In considering this subject three questions suggest themselves: First, Is it desirable? Second, Is it practical? Third, Is it obtainable? All, I think, except possibly the money lender, will agree that the first can be answered by a simple affirmative.

As to the second, I feel confident after more or less study and consideration, that it is not only possible to put it into actual practice, but that the general plan outlined in the Bathrick and Doolittle bills is both practical and simple.

The National Grange has endorsed the Bathrick bill, and a careful reading of the two bills will clearly demonstrate that the Bathrick bill is better thought out and more complete in its plan than the Doolittle bill. However, the principle is much the same in each; namely, the government to loan directly to the farmer, taking a mortgage on the farm as security for the loan, without the intervention of the banks.

While the Bathrick and Doolittle bills are much alike, they differ in one vital respect. The Bathrick bill provides that the government borrow money to loan on farm mortgages, issuing bonds to obtain it, while the Doolittle bill provides that the government issue treasury notes direct to the borrower, these notes to be a legal tender for all debts, public and private, except interest on the national debt and duties on imports.

It seems to me that there are two objections to the Doolittle bill, both arising from the same provision; namely, the issuing of unredeemable notes, for they are not redeemable in any way and are retired only upon payment of the mortgage.

This seems too much like fiat money to many, but the only objection that need concern us is, that on account of this provision it is probably impossible to secure its passage, which is a fatal defect, as we can never receive government aid until a law for it is secured.

The Bathrick bill provides for a commissioner of rural credits, appointed by the President, to be at the head of the rural credit bureau. He is the working head, but he is under a board called the Farm Credit Board, composed of the secretary of agriculture, secretary of the treasury, the postmaster general, and two farmers appointed by the President.

The secretary of agriculture is the president of this board. The bureau is to be organized in divisions, and these divisions shall represent corresponding districts of the United States and shall each have its chief examiner, all applications coming from these districts to be passed upon by the chief examiner for that division.

Under the provision of section ten of this bill, the secretary of the treasury is authorized to borrow money on the credit of the United States and to issue bonds therefor, these bonds to bear interest at a rate not to exceed 3½ per cent per annum, the proceeds to be loaned to the farmers at a rate not to exceed 4½ per cent per annum.

Section thirteen provides that a small part of the principal, not to exceed \$4 on the hundred, shall be paid at each interest paying day, also that these loans shall be made through farm credit associations, acting as agents of the bureau, for which service they shall receive a commission not to exceed one-half of one per cent.

Loans are safeguarded by a number of rules limiting the amount any one person can obtain and providing penalties for misrepresentation in obtaining loans.

I do not consider the Bathrick bill by any means perfect. I believe the bonds should bear three per cent interest and the borrower pay four per cent, the one

per cent difference to defray expense of making loans and any surplus to go to a road fund as provided in the bill. Interest should be payable annually instead of semi-annually. A better agency for the placing of the loans might be township boards or boards of county commissioners.

I believe some such plan for rural credits as set forth in the Doolittle and Bathrick bills to be the best yet suggested. I do not believe in land credit banks to act between the farmers and the government, the government to assume all risks and the banks to receive all the profits.

Certainly the plan in operation in Germany and other European countries would not suit American farmers, as it would make too public their private business.

A great deal of missionary work needs to be done if we are to secure a rural credit law this winter. The secretary of agriculture has said he did not believe the farmer wanted to be helped by direct aid from the government, and President Wilson intimated that he considered the currency law, passed by the last Congress, as in the nature of a rural credit measure.

The fight for a rural credit law, so far from being over, as some seem to think, is really just begun, and it behooves every friend of the measure to be up and doing.—W. B. CELLAR.

### Brome Grass.

P. L., Smith County, asks if brome grass can be successfully grown in his part of the state.

The Russian brome grass, or bromus inermis as it is technically named, is a tame grass that for the northern part of the state, at least, is worthy of consideration. So much inferior seed was sold when this grass was first advocated that it came into disrepute. A great many failures were reported. Much common cheat seed was sold for bromus inermis. This is an annual and of course could have no value as a permanent pasture.

We had our first experience with this grass at the Kansas Experiment Station. It turned out to be a very useful pasture grass. It is very hardy and in the college pastures crowded out other tame grasses. The seed will cost about fifteen cents a pound. As in the case of Kentucky bluegrass, the stand will thicken through the spreading of the roots. In fact, on rich land it will in a few years get too thick and become sod-bound. Out in Northwestern Kansas a number of farmers have found it a most satisfactory tame grass. In fact, the only one that has given any indication of becoming useful for that section. It is being grown in connection with alfalfa in some instances because its presence makes the pasture less apt to cause bloat in cattle. A number of demonstrations in the growing of this grass have been made in Jewell County. The reports on these trials show that the grass is giving very good results in this county.

### Sweet Clover for Thin Pastures.

We have been asked by S. T. M., Republic County, if sweet clover could be used on some pasture land where the grass is badly killed out.

Sweet clover seems to thrive on this kind of land. It will not grow well, however, on soil lacking in lime, but makes good growth on what is frequently considered very poor soil providing lime is present in abundance. Even in Jewell County—the home of alfalfa—several farmers have planted this crop on rough pasture land and have reported very favorably on the results obtained. It has made a splendid pasture crop, being eagerly eaten by the animals. The common belief is that stock will not eat sweet clover and the rank growth along the roadsides is pointed to as proof, but whoever saw sweet clover making such rank growth in pastures? When young and tender, stock readily learn to eat it. On the land described by our correspondent, it would be a good plan to scatter some sweet clover seed on these thin bare spots almost any time during the winter season. This seems to be the only natural method for sweet clover to seed itself.

Have you made a success along any particular line in your farming operations? Tell us about it, that we may tell others. There's no telling the good it will do.



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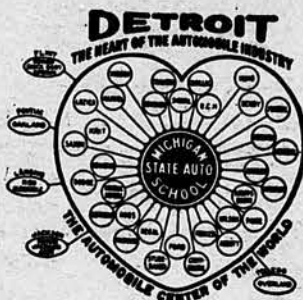
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### Case Against the Dog.

A serious indictment is made against the dog in the Federal Department of Agriculture bulletin entitled "The Dog as a Carrier of Parasites and Disease." It is stated in this bulletin that while the dog in the country is a useful and pleasant adjunct to the farm if he is properly controlled and cared for, yet when neglected he may readily become a carrier of disease to stock, in addition to gaining opportunity to kill sheep and destroy gardens and other property. Dog ordinances, as a general rule, have been intended chiefly to curb the dog's power of doing harm by attacking, biting, killing, or running sheep or stock. The part that he plays as a carrier of diseases to animals only recently has been recognized, according to the zoologists of the department, who believe that when this is better understood, rural ordinances and laws which lessen this danger will gain the support of the community.

Of the diseases carried to stock by dogs, the foot and mouth disease is probably of the greatest interest at this time. In this case the dog acts as a mechanical carrier of infection. The dog which runs across an infected farm easily may carry in the dirt on his feet the virus of this most contagious of animal diseases to other farms and thus spread the disease to the neighboring herds. In infected localities it is absolutely essential, therefore, to keep all dogs chained and never to allow them off the farm except on leash.

There are, however, many other maladies in the spread of which the dog takes an active part. Rabies, hydatid, ringworm, favus, double-pored tapeworm, roundworm, and tongue worm are often conveyed to human beings in this way. It occasionally happens also that the dog helps fleas and ticks in transmitting bubonic plague or the deadly spotted fever.

Hydatid disease is caused by the presence in the liver, kidneys, brain, lungs, and other organs of a bladder worm or larval tapeworm. Bladder worms are often as large as an orange and may be larger. A dog which is allowed to feed on carrion or the raw viscera of slaughtered animals may eat all or part of a bladder worm containing numerous tapeworm heads. These tapeworm heads develop into small seg-

mented tapeworms in the intestines of the dog. They are spread broadcast on grass and in drinking water where animals can very well eat them and thus become infected. The hog is particularly liable to this disease because of its rooting habits. The eggs may get into human food, and persons who allow dogs to lick their hands and face also run the risk of getting the eggs of the tapeworm in their systems.

Prevention on the farm consists in so restraining the dog that he can not get at carrion or raw viscera. Viscera should be boiled before being fed to dogs and should never be thrown on the fields. If not cooked and fed, viscera and carcasses should be burned, buried with lime, or so disposed of as not to be accessible to dogs. Proper feeding of the dog is essential, and the owner who does not feed a dog properly has no right to keep one.

The parasite which causes gid in sheep somewhat resembles the hydatid worm. A dog allowed to eat the brain of a giddy sheep may swallow this parasite and later distribute the eggs of the resulting tapeworm over the pasture. Sheep while grazing swallow the eggs with the grass which they eat. In the case of sheep dogs it is important to administer vermifuges often enough to keep them free of these worms. In the case of sheep measles, the bladder worm in the meat, typical of this disease, is swallowed by the dog and again the tapeworm eggs are passed by the dog to grass or water, and there are eaten by sheep.

Of the external parasites which dogs may carry to animals, fleas and the various kinds of ticks are both troublesome and dangerous. The remedy is clear. The owner must keep his dog clean, not merely for the comfort and happiness of the dog, but to prevent it from becoming a carrier of disagreeable and dangerous vermin.

These reasonable measures, important to the stock on the farm, have a direct connection with the health of the family. Where ringworm or other skin diseases break out among the children, or the worm parasites develop, it is well to determine whether a dirty or uncared-for dog may not be carrying infection on his skin or hair, or be conveying disease from carrion directly to the food and persons of his friends. Even if no

one is infected with disease, the folly of allowing a dog to remain dirty and have the freedom of a home where personal cleanliness and hygiene are respected is apparent.

### Purpose of Crop Reports.

The charge is frequently made that the publishing of crop reports or estimates does the farmer more harm than good. This because it is assumed that the speculator is in a position to take advantage of advance knowledge and does so to the detriment of the producer. Some crop reporters even go to the extent of purposely underestimating yields. The Bureau of Crop Estimates of the Federal Department of Agriculture receives occasional inquiries suggesting this attitude of the public mind. The aim of the crop-reporting service is to give everyone, at the same time and without charge, an unbiased estimate of crop conditions.

Before the department undertook the issuance of this public crop report, private speculative interests long had been collecting such advance information as they could and using it to their own advantage. Today many speculators and large buyers of farm products do not depend wholly upon the government crop report for their information. They maintain a regular system of collecting information through traveling agents and a corps of reporters, largely local buyers who, in exchange for their local information, receive the information issued regarding general conditions and prices.

In the absence of the government report the country would have to depend wholly upon privately prepared reports. Even if these reports were supplied free, farmers would have to guard themselves against having the information reach them only after it had been used for private speculative purposes, and, in addition, would be under the necessity of determining whether the private circulated reports were colored by private interests or, as is true of some of the reports privately circulated, were a conscientious effort to publish accurate estimates. The purpose of the government crop report is to furnish simultaneously to producer and buyer unbiased estimates of yield and probable production. The estimates as issued are compiled from facts reported by a vast number of volunteer crop reporters, and these

facts are supplemented by information specially gathered by the department's state field agents, who are required to travel widely over their states and to observe crop conditions at first hand.

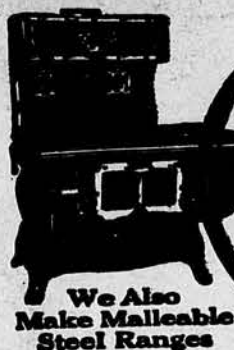
In establishing farm prices or other prices accurate knowledge as to supplies is essential. The Bureau of Crop Estimates collects such data and carefully collates and analyzes them. The department so surrounds such information with safeguards that it is impossible for anyone to gain a hint as to the figures until the department's estimates are made accessible at a stated time to all classes interested.

In some few cases individuals have refused to co-operate in gathering and furnishing local information as to crop production to the department because of a groundless fear that such information might be used as the basis of an increase in taxes. The department, of course, has nothing to do with levying taxes, and names and addresses of individual reporters, as well as their reports, are treated as strictly confidential and are never disclosed.

The total expense of operating a farm is larger than usually figured. This is due to certain expenses not being considered. Those omitted are as a general rule those for which cash is not paid. Buildings depreciate in value even though well built and kept up in good shape. Machinery has an annual depreciation of about 10 per cent. If the year ends with less feed on hand than at the beginning, the decrease is an expense. Unpaid family labor is not often thought of as an expense. However, it is fully realized when the boys leave home and someone is hired to take their place. The value of these items on fifty-four Nebraska farms amounted to \$246 a farm in 1914. The total expenses amounted to \$991 a farm. From this it is seen that if those expenses not paid in cash are omitted, about one-fourth of the actual expense of operating a farm is overlooked. The farms from which the above figures were calculated are typical of a large part of the southwest corner of the state.

Unusually rapid wear in the differential or transmission case often is due to grit in the grease. Carefully wipe the gritty dirt off the grease gun before inserting it.





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300,000 satisfied customers say there are no better heating stoves and ranges made than Kalamazoo's—yet you save \$5, \$10, \$15 to \$20. Why not take a Kalamazoo trial? Now is the time—get a quality range at a money saving price. Send today for catalog.

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Kalamazoo Stove Company  
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## BARGAINS IN WHEAT LAND

This land has proven its ability to make 20 per cent net each year on the value asked. It is offered for sale, as the owner is ready to retire.

### FARM NO. 1.

Harper County, Kansas, containing 160 acres; sandy loam with clay mixture; 90 acres in wheat, 20 acres ready for spring crops, 50 acres pasture. All fenced and cross-fenced. Running water, two wells. Four-room house, cave, etc. Stable for eight horses, cattle sheds and other out-buildings. Cash price, \$30 an acre.

### FARM NO. 2.

480 Acres, Harper County, Kansas. 160 acres broke, 100 acres in wheat, 60 acres ready for spring crop, all good hard wheat land. \$25 an acre, cash.

### FARM NO. 3.

160 Acres, 110 acres broke, 60 acres in wheat, 50 acres ready for spring crop; 50 acres mow land on creek bottom; all fenced, meadow, cross-fenced; running water, well, granary and stock sheds; good hard wheat lands. \$25 per acre, cash.

### FARM NO. 4.

74 Acres in Sedgewick County, Kansas. All broke, all fine alfalfa land; 6 acres in alfalfa, balance in wheat, was alfalfa; fenced; good house, well, barn for four horses, and usual outbuildings. Near station; 10 miles from Wichita. \$100 an acre. Balance of quarter in alfalfa and can be had for \$115 an acre.

WRITE TO H. N. HOVEY, CARE KANSAS FARMER, TOPEKA, KANSAS.

## CORN, ALFALFA AND LIVE STOCK

THE PROFIT-PRODUCING COMBINATION.

Do you want a nicely improved quarter section, highly productive, two miles from Marysville, the county seat of the banner corn county in Kansas? A bargain for someone at \$16,000, with favorable terms. For particulars address

X. Care, Kansas Farmer

## FOR 50 CENTS Get a Platinum Plate Metal Polisher & Sterilizer

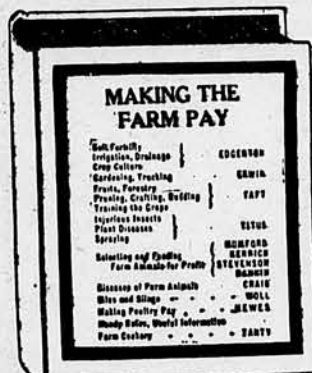
Very quickly cleans silverware and metal surfaces of every kind. No rubbing—no powder—no paste. Immerse the platinum plates in the dish water and your silverware is always clean and sterilized. Send 50 cents, check, money order or stamps.

CHAS. CLARKE, 334 Kansas Ave., Topeka, Kans.

## GREATEST FARM BOOK BARGAIN

Every reader of Kansas Farmer can now obtain that widely read 500-page book, "Making the Farm Pay," with renewal or new subscription.

You can have a copy of this great farm book, "MAKING THE FARM PAY," a book that thousands of farmers, stockmen, gardeners, dairymen and other producers have bought and say it is the best book they own. The book was written by experts on special subjects—men known all over the United States and in foreign countries for the special study, trials and investigations made by them along particular lines, making the book a valuable compendium of farm knowledge. "MAKING THE FARM PAY" gives you page after page of valuable information about treating diseases in stock, selecting and feeding farm animals for profit, crop culture, making poultry pay, dry farming methods, detection and eradication of insects, besides chapters on irrigation, soil fertility, cooking to avoid waste, horticulture, gardening, and practically every subject that is of interest and value to the farmer.



This is one of the best book bargains ever offered and is sure to please you. We will refund your money cheerfully if you are not entirely satisfied.

*J. A. Somers*

authors using only such expressions as everybody can understand. Any farmer with ambition to make the most of his labor and realize the greatest returns from his investment will find in this volume a priceless guide for every-day reference.

**HOW TO GET THIS GREAT BOOK.**—If you will send only \$1.05, we will enter or renew your subscription to KANSAS FARMER for one year and send the book, "MAKING THE FARM PAY," postpaid. Fill out the blank, enclose check, money order or stamps for \$1.05 and send at our risk.

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KANSAS FARMER, 625 Jackson Street, Topeka, Kansas.

Gentlemen—I enclose herewith \$1.05, for which please enter or renew my subscription to KANSAS FARMER for one year, and send me the 500-page book, "MAKING THE FARM PAY," postpaid as per your offer.

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## INCREASING CORN YIELDS

Numerous Trial Plantings Show Increase—Prof. L. E. Cah

THE average corn yield in Kansas for the last few years has been less than twenty bushels an acre. That this is not the maximum possibility for the state is shown by the fact that half a century ago the acre yield was double what it is now. How to get better yields of corn—the most important cereal crop of Kansas—is one of the big farm problems being worked out by the Kansas Agricultural College.

The adaptation of varieties, the breeding and selection of improved seed of the best varieties, systems of cropping and soil improvement, and the effect of continuous corn growing as compared with a rotation on the fertility of the soil—these are factors being studied.

One of the most important factors influencing the yield of corn is the variety grown and its adaptability to the soil type and to climatic conditions. In order to determine the adaptability of different varieties and strains of corn to different sections of Kansas, we have conducted for the past five years variety tests in co-operation with farmers in all parts of Kansas. In the past season 152 variety tests were conducted in which were included thirty-eight different varieties and strains of corn.

### TESTS COVER WHOLE STATE.

Variety tests have been conducted in practically every important corn growing county in the state. Not only has the state been studied in this respect from the standpoint of climatic conditions, but an effort has been made to conduct these tests on as many soil types as possible. From the results of this work the state has been divided into nine corn regions based upon climatic and soil conditions. It should be understood that the boundaries of these regions are not fixed lines but one region passes gradually into another.

In the first three regions, which compose most of the eastern part of the state, soil conditions have been the chief factors considered in the separation. Region 1 represents the glaciated, or ice-formed, soils of the state; region 2, the residual soils of Southeastern Kansas derived chiefly from sandstone and shale, and region 3, the flint hills and rough limestone country which are largely devoted to pasture. In the region comprising the rest of the state, climatic conditions govern the corn crop.

### DO NOT TRANSPORT SEED.

Because of the difference in climatic and soil conditions, different varieties of corn have been found to give the best results in the different regions. As a rule, it has not been found beneficial to transport seed from one region to another. Especially is this true when the seed is taken from the eastern to the western part of the state, or from rich to less fertile soil.

Preparation of seedbed, method of planting and cultivation of corn are perhaps the most important factors within the control of the farmer that affect the yield of the crop. This is certainly the case if good seed of a well selected and adapted variety is planted.

A study has been made of the three common methods of planting—listing, surface planting, and surface planting with the disk furrow opener attachment to the surface planter.

In an average of the six years, listed corn made slightly lower yields than either of the other two methods, the average yield being 52.4 bushels an acre, while surface planted corn produced an average of 53.6 bushels and corn planted with the disk furrow attachment to the corn planter produced an average yield of 54.5 bushels.

### METHOD VARIES WITH SEASON.

In the cooler, wetter seasons the surface planted corn has produced best, while in the drier and hotter seasons the corn planted with a lister has given best results. This has been long recognized by practical farmers and has been amply demonstrated many times by careful experimental work.

Undoubtedly one of the principal causes for listed corn giving better results in dry seasons on many farms in Eastern Kansas is that the stand is poorer than where the corn is surface planted and the crop consequently yields better; likewise, the larger yields secured with surface planted corn in favorable seasons undoubtedly result from the better stands secured with this method of planting. While the stand is an important factor, it is not the only factor entering into the differences secured in listing and surface planting.

The difference in rate of early growth is also important. The roots of the plants, while small, are in cooler soil on

the listed ground and also occupy soil containing less available plant food than plants of the same age on surface planted ground; consequently they grow more slowly and are apparently more hardy and more drought resistant than plants that make a faster growth during the early period of their life.

### WHAT CULTIVATION ACCOMPLISHES.

Three objects are expected to be accomplished by cultivating corn: First, the destruction of weeds; second, the conservation of moisture; and third, the liberation of plant food from the soil. There is no question that thorough cultivation accomplishes all three of these objects, but whether the conservation of moisture and the liberation of plant food are the result of stirring the soil or simply result from the fact that the weeds are destroyed by cultivation is a disputed question. That the question is of practical importance is evident. If the elimination of weeds is the principal result accomplished by cultivation, and moisture and plant food are saved because the weeds are killed, there is no object in cultivating a field of corn in a dry season after the weeds in the field have been destroyed.

It appears from the results of these two years' work that the destruction of weeds is by far the most important result accomplished by cultivation and that when the corn is planted on a well prepared seedbed and is cultivated enough to kill the weeds, any additional cultivation will be injurious rather than beneficial to the crop.

The injury comes from the pruning of the small feeding roots that fill the surface of the soil. If these roots are not destroyed by cultivation they secure both moisture and plant food from the most fertile portion of the soil. Therefore, in a well prepared seedbed the best method of cultivation is the one that destroys the weeds most thoroughly and injures the corn roots least. A rotation of crops that keeps weeds under control, thorough preparation of the ground in advance of planting, and the use of the smoothing harrow that destroys the small weeds as they are germinating before the corn is large enough to work, will be the most effective way of fighting weeds and will greatly reduce the cost of cultivation.

If the bluegrass on the lawn is getting thin, the best treatment is to apply a dressing of manure about the time the ground freezes; on most soils fresh strawy manure is best. In early spring the coarser parts of the manure may be raked off, and a little bluegrass seed sown over the bare spots. Even on bare, newly graded clay, fresh horse manure will not only prevent washing of the soil during winter, but perhaps through its fermentation process bring our soils into better condition for spring growth of grass than does old rotted manure.

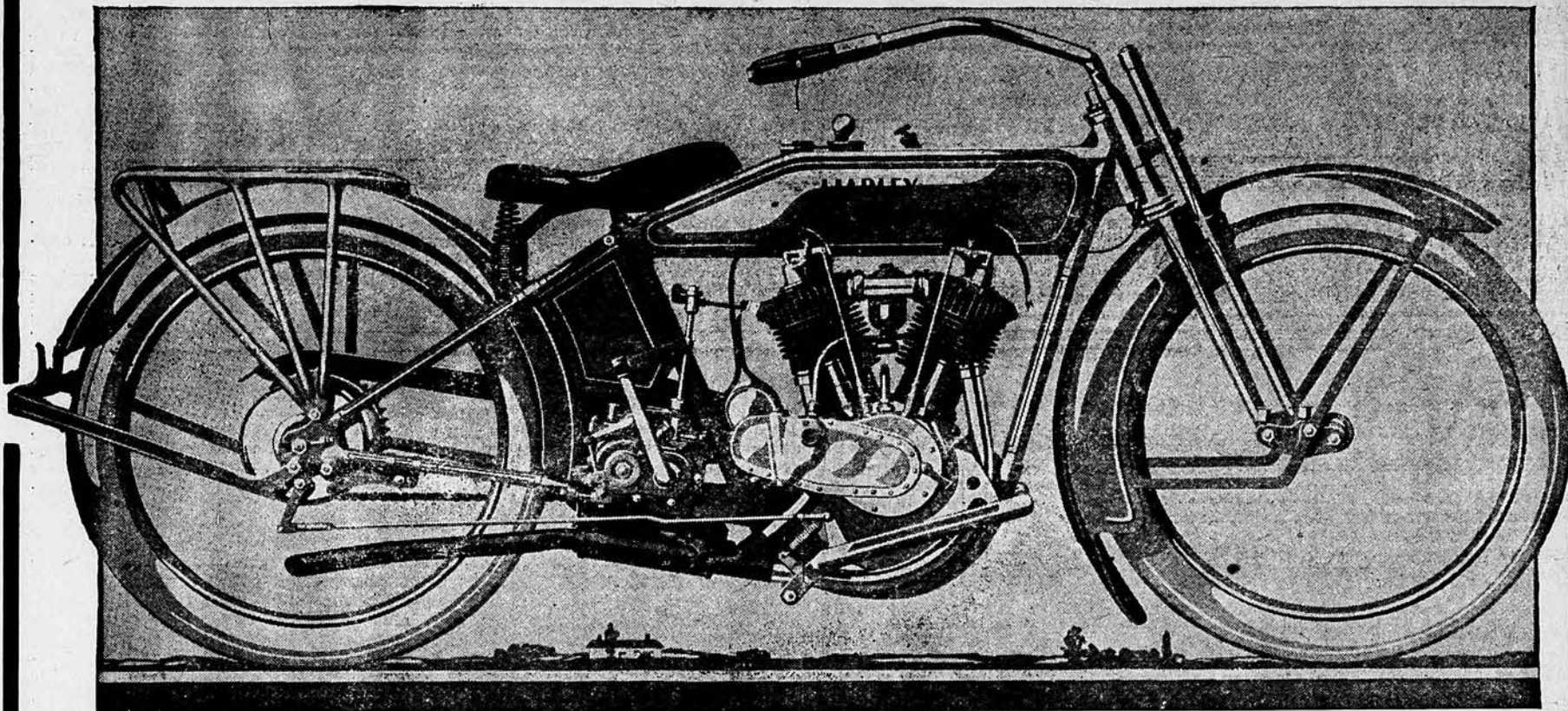
On fifty-three farms surveyed in Thurston County, Nebraska, the farmers made \$1,448 above expenses and 5 per cent interest on their investment for the year 1914, in addition to receiving a home and what the farm contributed toward their living. The average size of the farms was 214 acres and the average total capital for each farm was \$24,846. The crop year of 1914 was a favorable one and the prices were good. This survey will be continued for a number of years for the purpose of finding which system of farm management yields the greatest continuous profit. It is being made by the College of Agriculture in co-operation with the United States Department of Agriculture.

Milk pails should be of such construction as to enable them to be easily cleaned and kept bright. This is best accomplished by having the inner surface of the pail smooth and free from seams or crevices, which serve as a place for dirt to accumulate and make its removal difficult. The pails should have the seams smoothly soldered and should be heavily tinned to prevent rusting. They should have a narrow or covered top to exclude as much falling dirt as possible.

Let us remember through all our activities for better stock, better crops, better roads, etc., that the important thing is the human family, and that prosperity will mean little if it is not used in bettering those conditions upon which the best things in life are dependent.



# This Motorcycle Free!



**JOIN OUR MOTORCYCLE CLUB AND GET A MOTORCYCLE  
IT'S EASY TO WIN AND YOU MAKE GOOD WAGES BESIDES WHILE WORKING**

*We pay you liberally IN CASH for the work you do and over \$500 in cash and prizes will be awarded. Write us today about it. IT COSTS YOU NOTHING TO ENTER*



**Charles Erbert Ellis, Kan.**  
Winner of Motorcycle in second contest.



**C. S. Kelley Horton, Kan.**  
Who won Motorcycle in the contest which closed March 13, '15.

## Read These Letters From Winners of Other Motorcycles We Gave Away

### OKLAHOMA BOY WON EASILY.

Harvey Ferril, of Amorita, Okla., was the winner of the motorcycle given away February 13, 1915. He secured only 141 subscriptions and was the highest, winning a \$275 machine. Here is what he wrote:

Manager Motorcycle Club—Dear Sir: I received by motor today and like it fine. It is just like you said it would be and I think if any person wants to deal with honest men, deal with Kansas Farmer. I will send you a picture of my motor and me before long.—HARVEY FERRIL, Amorita, Okla., March 18, 1915.

### TOOK ONLY 110 SUBSCRIPTIONS.

E. B. Freedy, of Richland, Kan., won the Motorcycle in the contest which closed February 28, 1914, by securing only 110 subscriptions, nearly all for only one dollar. He was the highest, with only \$106.50. Think of it! He got a machine that sells everywhere for \$260, but he had the most subscriptions and the most points, and won. Here is what he says:

Manager Kansas Farmer Motorcycle Club: I received the Motorcycle, and it is sure a dandy. It is easy to handle. I have not found a place it won't pull. I would advise every boy to get busy on the next contest, for it is easy to win and everything is straight.—E. B. FREEDY, Richland, Kan.

### HE LIKES HIS MACHINE.

Manager Kansas Farmer Motorcycle Club—Dear Sir: I am writing to let you know I received the first prize Motorcycle and sure am pleased with it. It sure is a dandy. It was worth working for, and I also say the way you managed the contest was sure on the square, and I think others who may enter one of your contests will say the same, and I hope those who enter one of your contests will win out as easily as I did.—C. S. KELLEY, Horton, Kan., March 29, 1915.

### PERLE TILLEY, RANSOM, KAN., IS MORE THAN PLEASED.

Manager Kansas Farmer Motorcycle Club: I received the Motorcycle yesterday and I am more than pleased with it. I have ridden it about fifty miles. I want to thank you and the company for the machine and the promptness in sending it to me. The contest was carried on absolutely fair and you did everything that you said you would do. My winning has caused great enthusiasm here among the young folks, and everyone thinks my machine is great. I am going to get my picture taken with the machine soon and I will send you one. I may take a trip east this summer and if I do I will sure stop and see you. Again thanking you for your honesty and kindness to me, I am, yours truly—PERLE TILLEY, Ransom, Kan., May 12, 1915.



**Jos. Muckenthaler Jr. Paxico, Kan.**  
Winner of Motorcycle in first contest.



**Clifford Jerome Corning, Kan.**  
Winner of Motorcycle in the contest which closed Dec. 31, 1914.

## Do You Want a Motorcycle?

**A MACHINE THAT WILL GIVE YOU MORE PLEASURE THAN ANYTHING ELSE YOU COULD OWN, AND AT THE LEAST EXPENSE. YOU MIGHT JUST AS WELL HAVE ONE AS NOT.**

We have already given away nine Motorcycles recently and every one has been won with far less dollars in subscriptions secured from others than it would take in dollars to buy the machine of a dealer. This is the easiest and best way to get one. Send us your name and address and we will tell you all about it, free of cost, and this will place you under no obligation to us whatever. There never was a time when Motorcycles were so valuable or when so many were owned and ridden. You will find use for one every day. Having a Motorcycle to ride puts you many minutes closer to your work and to town and you can go many miles and come back on a Motorcycle in a remarkably short time. It will pay you to find out all about our easy plan whereby nine sons of farmers each won one of these Motorcycles, and won them easily, just working during spare time. Send in your name and address today on the blank for the next campaign, which is just starting. You have an opportunity here that you can make worth a good many dollars to yourself if you will only take advantage of it. Someone is going to get this Motorcycle easily and make money besides. Will it be you? It might just as well be you as any one, and no harm will be done in trying.

### FILL OUT THIS FREE ENTRY BLANK and MAIL TODAY

MANAGER KANSAS FARMER MOTORCYCLE CLUB,  
625 Jackson Street, Topeka, Kansas.

Dear Sir:—I desire to enter your Motorcycle Club. Please send me free of cost the free premium and the free outfit and your special easy plan to get subscriptions fast, with full information about the prizes and contest, and tell me how I can win the \$265 Harley-Davidson Motorcycle and earn from \$40.00 to \$60.00 per month at the same time.

My Name .....

Post Office ..... State .....

Street or Rural Route, or in Care of .....

We are ready to turn over to you in cash and prizes what we would pay others for doing this work for us. You can't lose under our plan and you have everything to gain. If you have any spare time whatever, by all means write and find out all about our plan. You can see what the others say who have won Motorcycles. They were glad they sent in their names. We had never heard of any of them before and none of these winners had ever taken a subscription before or done any work of this kind. Previous experience is not required, and you have just as good an opportunity as any one else to get this \$265 Harley-Davidson Motorcycle for yourself. Will you try? It costs you nothing to enter and we send the few necessary supplies absolutely free of cost. You do not even have to be a subscriber to Kansas Farmer.

The best thing to do is to write at once and we will send you a complete description of the Motorcycle and the other big prizes to be given away—\$500 in all—together with our easy plan to secure subscriptions rapidly and make from \$40 to \$60 per month during spare time. This costs you nothing and you will be under no obligations to us whatever if after reading about the plan you decide not to go ahead. If you would like to own a fine Motorcycle like the one shown here, send in your name and address at once and begin getting subscriptions right away.

### You Get Paid Every Week

You do not have to wait to be paid for the subscriptions you secure. You get paid every week and under our easy plan it will be easy to get subscriptions. This is the best time of the year to do this, and if you write at once you can get in at the start. You know this paper and the other campaigns show our plan to be to your advantage.

### You Won't Know How Easy It Is Until You Start

The campaign starts right away. A certain number of points will be given with subscriptions secured for our paper, for which you will be paid, and the boy or man who has the highest number of points to his credit by 6 p. m. February 26, 1916, will be awarded the \$265 Harley-Davidson Motorcycle. The second highest will receive \$75.00 in cash. The third highest will receive a \$30 Phonograph Outfit. The fourth highest will receive a \$30.00 Gold watch, and the fifth and sixth highest will each receive a \$45.00 College Scholarship, and the seventh highest a \$15.00 Gold Watch. In case of a tie, prizes of equal value will be awarded. Besides this, you are sure to be paid in cash for each subscription you secure, as stated above.

### Big Offer Extra to All Who Enter At Once

DON'T WAIT. Send in your name and address on the blank and begin making money at once. To all those who send in their names within twenty days, a free premium will be sent with the free outfit and full information about the contest and description of the prizes, also names and addresses of previous prize winners and a letter telling you just how to proceed.





## Bumper Grain Crops Good Markets — High Prices

Prizes Awarded to Western Canada for  
Wheat, Oats, Barley, Alfalfa and Grasses

The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa. No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer. In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. There is no war tax on land and no conscription.

Send for illustrated pamphlet and ask for reduced railway rates, information as to best locations, etc. Address

GEO. A. COOK,

2012 Main St., KANSAS CITY, MO.

Canadian Government Agent.



## Feed Dairy Cows Intelligently

IN order to reap the highest and most economical returns from a properly-bred and selected herd, the animals must be fed intelligently. One of the principal reasons for the low average production of the Kansas cow is that she is not properly fed. By weeding out the poor cows and feeding the best ones more intelligently it would easily be possible to double the production of the cows of the state.

If the cows are to make their maximum production it is essential that they be properly fed and cared for before they freshen. Each cow should be given four to six weeks rest each year. During the time the cow is dry she must be well cared for, and not turned out on a poor pasture or stalk field to care for herself. The cow needs the rest in order to repair and build up her body. At the same time there is a great demand for food to develop the unborn calf. Hence it is necessary for her to have plenty of food to meet these requirements. She should also be allowed to gain in weight. The cow that freshens poor in flesh can not be expected to milk well during the following milking period. But the cow that is in good flesh when she freshens will start off giving a large flow of milk and will keep it up for a long time.

For several days, or a week, before the cow is due to freshen her grain should consist of bran. The bran will act as a laxative and thus the digestive system of the cow will be brought into good condition before calving. Immediately after she freshens the cow does not need, and should not be fed, a heavy grain ration. A ration of bran, fed dry or as a mash, is sufficient for several days. If the cow has surplus flesh at this time she will draw on the store and produce a large amount of milk from the start. The cow should be given a small quantity of grain at first, this being gradually increased as the milk flow increases. After all swelling and inflammation is gone from her udder she may be given a heavier grain ration. At the end of three or four weeks, she will reach her maximum milk production, and should then be on full feed. From this time on the ration should be regulated according to the quantity of milk given.—Kansas Experiment Station Bulletin.

garine pay ten cents a pound tax, unless it was shown by the manufacturers that it was only liable to the one-fourth of a cent per pound tax, and this interpretation we really believe would have been in line with the interpretations of similar laws. This wrong-end-foremost way of enforcing the law made it more easy to defraud the government out of some twenty-seven millions of dollars of taxes.

The Secretary of the Treasury in his report to Congress a few days ago recommended a change in the present oleomargarine law.

The National Dairy Union champions legislation that will prevent the frauds which have always prevailed in the sale of yellow oleo, by fixing a limit of color for it, which conforms to that which is now known in the trade as white oleo and by changing the present tax to one cent a pound.

William T. Creasy, Catawissa, Pa., secretary of the National Dairy Union, is urging that all dairymen use their influence to make these efforts successful.

### Creamery and Dairy Farming.

The introduction of the hand separator marked an important epoch in farming. Nowhere did it mean more than in the Central Plains regions. Farmers who had been having a hard time growing cash crops as their only source of income bought separators, began milking a few cows and each month received a check for the cream that was shipped, sometimes hundreds of miles, to the creamery. It became possible for the farmer to surround himself with chickens, keep a few cows, build a silo, raise sorghums, and gradually develop a good dairy herd. This was a far more sure and safe kind of farming than that of depending on the occasional good crop of wheat. This is not mere theory, there are plenty of facts to substantiate these statements. The following from a recent issue of Campbell's Scientific Farmer is a good illustration:

"No factor has had as great an influence on the development of the semi-arid West as the creamery, simply because it furnished a ready market for a product that every settler could turn off, and in sufficient amounts to support an ordinary family. Under present conditions there is a market at every station along the railroad lines for cream. In place of the old skimming station, the postmaster or the merchant buys the cream that is brought in from day to day and ships it to the creamery. He works on a slight per cent and thus saves the cost of the manager of the skimming station.

"As an example of how it works out in actual practice, let us take Burlington, Colo., and Kanorado, Kan. They are representative points in the short grass country, where the rainfall averages about sixteen inches. There are several buyers in each place, and milk money furnishes the regular income of many of the settlers. A glance at the books of the buyers shows that there are a large number of small herds of from eight to fifteen cows that bring to their owners a revenue of from \$40 to \$60 a month. Here is a list of July payments picked at random which fairly represent the neighborhood surrounding Burlington: Charles Neely — \$13.02, \$13.26, \$12.09, \$12.01, \$12.04, total for the month, \$62.72; E. N. Taylor — \$7.89, \$7.89, \$6.56, \$7.74, \$6.00, \$6.87, \$6.56, \$7.74, \$6.00, \$6.87, \$6.46, total for the month, \$49.52; D. C. Moser — \$4.11, \$5.89, \$4.11, \$4.77, \$4.57, \$2.41, \$3.15, \$4.91, \$4.62, total \$38.34; Otto Bastian — \$6.68, \$6.86, \$7.39, \$8.44, \$11.94, total \$41.31; John Mesch — \$3.78, \$5.83, \$4.64, \$4.14, \$8.71, total \$28.10; Ole Ostratt — \$3.74, \$9.06, \$2.85, \$4.28, \$4.53, \$1.89, \$2.58, total \$29.03. John Daniel received from eight cows \$30 during the month, and Mrs. Lucy Thomann from the same number of cows received \$20.

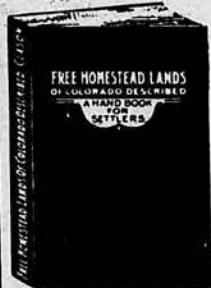
"These same facts are shown by the books of the milk buyers at Kanorado. F. A. Drake, from fifteen cows, received milk checks totaling \$57.66; H. E. Burlingham, from four grade Jerseys, received \$16.40 in June and \$16 in July; E. L. Stevens from six cows received a revenue of \$5 per week. These cows all rustled for their own feed. The cream from these stations goes mostly to Denver and Colorado Springs; a portion, however, goes as far east as Omaha."

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Professor Cottrell says: "A conservative publication of unquestionable value to all seeking the free homestead lands. I am especially pleased with the careful appraisal of the cash value of these raw lands. A copy occupies a prominent place in the library which accompanies me on my travels over the Rock Island System."

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### THIS BOOK DESCRIBES THE LANDS

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The character of this land varies in different localities. Considerable of it is especially good, other portions only of fair quality, and some is poor, broken, and of little value. It is most important for a settler to locate in the right district and at the least possible expense. With this end in view, this book has been published, classifying the lands open for entry and giving accurate detailed description and location of the land in every township containing vacant land in Colorado, describing the surface, soil, timber, distance from railroad, etc.

This is the same book for which many have been glad to pay \$2. However, for a limited time, we will send a copy of this book and a year's subscription to KANSAS FARMER to anyone sending only \$1, our regular subscription price, and 10 cents extra for mailing—\$1.10 in all. The book is complete—320 pages, same as the higher-priced book, only this is in a strong paper binding instead of cloth. Send all orders to

KANSAS FARMER, TOPEKA, KANSAS

## OUR BIGGEST CROP

During the year just closed (which makes fifty-three for KANSAS FARMER), this paper published over 4,000 articles.

Every one was prepared with greatest care and upon some subject of interest touching farm activity for this agricultural section.

No matter what the subject, a reference to the copies of KANSAS FARMER for 1915 will reveal that every subject related to the farm has been touched upon.

All have been written and published in a spirit of helpful co-operation. We do not advise anyone how to farm. Rather we study and discuss with you the every-day problems of the farmer, stock grower, and home maker of Kansas. Through a wide observation of farming and by studying, viewing and exchanging views with hundreds of our readers and partly through actual experience and much reading and study have we been able to give our readers what they have received.

We believe that no farmer, stock grower, dairyman or land owner in Kansas can fail to receive much more from reading KANSAS FARMER fifty-two weeks than the less than two cents a week that KANSAS FARMER costs.

The year 1916 holds an even greater amount of valuable interesting reading matter in store for our readers. Just glance at the INDEX that appeared in the December 25 issue of KANSAS FARMER and note how much you receive in return for one dollar invested in a one-year subscription.

OVER FOUR THOUSAND TOPICS OF INTEREST FOR ONE DOLLAR. THAT IS AN INVESTMENT YOU WILL NEVER REGRET. BETTER RENEW NOW OR SEND ONE DOLLAR FOR A YEAR'S NEW SUBSCRIPTION AND RECEIVE THE NEXT FIFTY-TWO ISSUES.

READ KANSAS FARMER'S CLASSIFIED  
ADVERTISING PAGE FOR READY BARGAINS



## Safe Farming in Western Kansas

"IN my judgment, any good farmer who is willing to work and willing to adapt himself to the country instead of insisting that the country adapt itself to him, can easily make a living and lay up money in Norton County. And the proof is that hundreds of them have done it. Today there is on deposit in the various banks of Norton County not less than \$1,250,000, and, according to the estimate of the cashier of one of the Norton banks, not less than 65 per cent of this belongs to Norton County farmers."

These words were addressed to a man in Iowa by A. L. Drummond, of Norton County, Kansas, in reply to an inquiry concerning farming conditions in North western Kansas. "Could I start farming out there with forty cows on some cheap grass land, make a comfortable living and a little money besides?" This was the question asked, and the answer is such a good exposition of what can be done in Western Kansas that we quote from this letter at some length:

"I have Norton County, Kansas, in mind," writes Mr. Drummond in this letter, "and my remarks have especial reference to conditions here, my knowledge being gained from actual residence and observation covering a period of over thirty years. I have not been engaged in farming at any time during that period, but I have watched the development of the country, which, of course, called for observation of many different farmers and various methods of farming. Without going into details or giving you specific examples and experiences, the following is my summing up of conclusions after so long a time: "Taking everything into consideration, one can find in Norton County and in this part of the state conditions as favorable to live stock and dairy farming as can be found in Iowa. To be sure, we do not have the native bluegrass pastures, nor can we count on as long seasons of green pasturing as in that state. Therefore we must allow greater acreage per head for pasture, and count on dry-feeding, or part dry-feeding, at least, for a longer period than in Iowa. But, measured against that condition, you may count our fine, open winters, and the freedom from the muddy conditions of feed yards and dairy quarters. We always have had, and probably always will have, dry periods and unproductive years, but these can be discounted by the farmer who accepts them as inevitable and plans accordingly."

"One of the worst failures I ever knew in the county was that of a man who came here with an abundance of money, and over my own personal protest bought more land than he could easily handle. He put in far more than all of his own capital, and stocked his farm heavily, thus leaving himself no capital to carry him through a possible dry year. He insisted that, because a dry period had just passed, we would never have another. Well, we have just finished off such a period of several years duration, and the man is broke and has moved away from here. At the same time others, with not one-fourth the capital but with better judgment and more experience, have come through in fine shape, and many of them have made money right along."

"Our pastures are largely buffalo grass, with a good sprinkling of blue-stem in the draws. We estimate that as the seasons run, it requires three to five acres a head for adult live stock in order not to pasture the grass down too close. In good seasons like the present, it will not require over two to two and one-half acres a head, while in exceedingly dry seasons four to five acres will be required. That, at first, looks like very expensive pasturage, but you must remember that here good pasture land can be had at from \$15 to \$20 an acre, against \$125 to \$200 an acre in Iowa."

"One must figure on dry-feeding, or partly dry-feeding, cattle here, an average of six months in the year. Of course this can be greatly reduced by using wheat, rye or alfalfa pasture in late fall and early spring. This makes it necessary for farmers in this section to give more attention to the production of roughage than many of them are willing to give, and because they will not do this, many who otherwise might prosper get along rather slowly. I do not remember more than one year in twenty when, with proper effort and right methods, abundant forage could not be produced. This is a great county for alfalfa and all the sorghum crops. A crop that of late is receiving some attention in Sudan grass. Some fields of this grass were raised in Norton County this season that turned out as high as seven tons an acre. A luxuriant growth

was made after the last cutting, which, as one party remarked to me, is 'the finest fall pasture for all kinds of stock I ever saw in all my life.'

"I will give you my very best advice as to how a man situated as you seem to be can make a success of farming in this section. To handle forty cows, you should buy not less than 160 acres of pasture—200 acres would be better—and if you expect to raise the calves to long yearlings, add another eighty or a hundred acres of grass. Then add to your pasture purchase a hundred acres of plow land. If possible, buy this plow land in some of the fine little creek valleys, first or second bottom, with the pasture running back into the higher and rougher land. This is just as good for grass, and much cheaper in price. The bottom land will give you a chance for twenty to fifty acres of alfalfa, and the balance can be cultivated to corn and other roughage. You should have a good silo, and should prepare to accumulate and take care of plenty of roughage. If possible, keep a year's supply ahead all the time. I would especially warn against running short of roughage. You can get along practically without grain, but roughage you must have."

"You should milk as many cows as you can handle, and sell the cream. Keep four or five brood sows, just enough to furnish pigs to take care of the separated milk that the calves do not need. Keep two or three hundred good laying

hens. Keep, if possible, four good brood mares and raise good colts. By all means keep a good pure-bred bull."

"This advice is backed by the experience of hundreds of men here who have 'made good.' Any man who will come to this section and follow this safe system of farming I have outlined will not only 'make a living,' but will lay up money, and do it more certainly and easily than in almost any other state in the Union, or in almost any other section of this state. If one does not have forty cows, cut down the pasture land correspondingly, reduce the cultivated acreage to, say, eighty, follow the same system of farming, and the same results, proportionately, are assured."

"This is no place for 'plungers' and we don't need them, but we do need good steady farmers, men of grit and go, who will stay, as we have stayed, through thick and thin, and share with us the prosperity that is ours because we have mastered the situation."

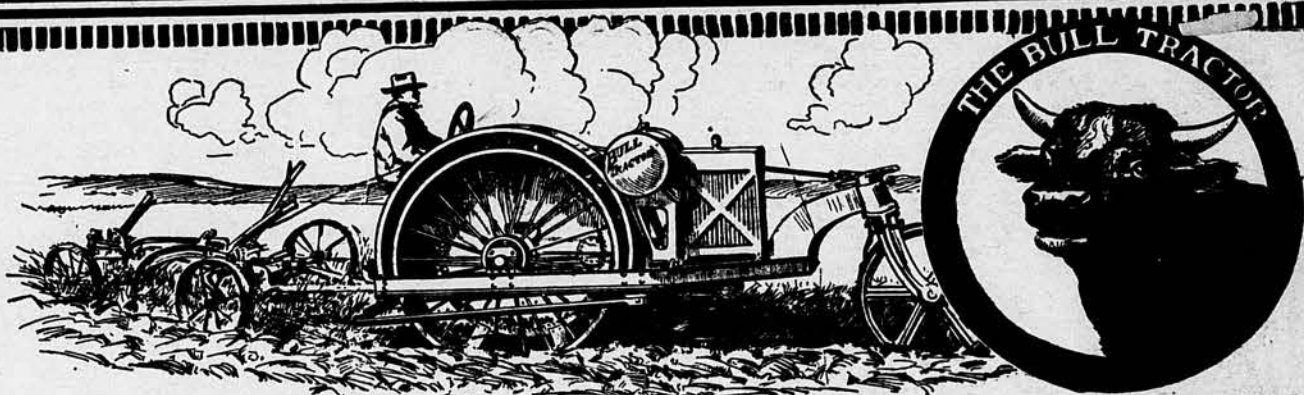
### Cholera Campaign Successful.

In Cowley County the agricultural agent, J. C. Holmes, and a representative of the state veterinarian have visited over a hundred farms, held ten public meetings, and vaccinated 4,160 hogs since August 1. A deputy from the Live Stock Sanitary Commissioner's office has personally directed the cleaning up and disinfecting of twenty farms where there had been hog cholera. Such well organized co-operative work cannot help being effective in controlling the contagious animal diseases. We have

had cholera with us so long that every one has come to accept it as a matter of course. It requires considerable effort to overcome this apathy, but when a whole community is awakened and becomes convinced that it is not an impossibility to wipe out such disease, things begin to happen. The results in Cowley County and in many other parts of the state show that a co-operative fight can be successfully waged. The secret of success in hog cholera eradication is to check every outbreak in the beginning, and so thoroughly disinfect the premises that it can go no farther."

In the campaign in Cowley County every outbreak has been checked and only such hogs have been lost as were seriously sick when vaccinated. Whenever a systematic fight has been inaugurated, cholera losses have been greatly reduced and hog growers are being encouraged.

The basic factor in an earth road kept by the King method of dragging is puddled earth, packed by travel and kept smooth by the drag. To turn water the road must be oval, smooth, waterproof, and hard. It will not stay smooth, even a portion of the time, unless it is hard enough to carry traffic on its top, or surface; it will not pack hard enough unless it is puddled, and then packed while damp. It will not pack smooth unless the travel is distributed over it. Travel puddles. Travel packs. Give travel a chance and it will spread laterally. So—use the drag first, last and all the time.



## 800 Satisfied Big Bull Owners in Kansas

The real test of any farm implement is the success that the average farmer has with it in doing actual work on his farm. Of the eight hundred BIG BULL owners in Kansas, all of them have used the BIG BULL to do a considerable amount of actual farm work.

Recently we asked these owners to tell us something of the amount of work they had done with the BIG BULL, and to tell us if they were satisfied with their investment.

Here are items of interest from some of the answers we received:

- A. P. JOHNSON, Larned, Kan., plowed 200 acres wheat ground in the same length of time as it would have taken fourteen horses. Pulled a 6-foot harrow at the same time.
- C. H. CARLETON, Cawker City, Kan., plowed, harrowed, disked and pulled a binder at less cost than that of horses.
- GEORGE L. MANSPEAKER, Garnett, Kan., says he plowed 200 acres five to eight inches deep at an average cost of 28 cents for gasoline an acre.
- C. E. HAMMOND, Fortis, Kan., plowed 220 acres that would have required eight horses, at an average cost of two gallons of gasoline per acre.
- J. E. CAMPBELL, Jr., Chillicothe, Mo., plowed 145 acres, doing the work of twelve horses, averaging one acre per hour, seven inches deep and using 1 1/2 gallons gasoline per acre; cut thirty acres of wheat per day, using fourteen gallons of gasoline; disked 700 acres, seeded forty acres to wheat; dragged three miles of road and sawed twenty-five cords of wood.
- W. H. BULL, Comanche, Okla., plowed and harrowed 240 acres at a total repair bill of 85 cents.
- R. W. BAIRD, Brewster, Kan., plowed 310 acres of sod and stubble at an average cost of 1 1/2 gallons of gasoline to the acre; also filled one silo; threshed 3,500 bushels of wheat and 1,400 bushels of barley. Bought his Big Bull tractor from Ike Crumly & Son, Colby, Kan.
- F. P. SMITH, Heizer, Kan., used the BIG BULL to pull three disks that would have taken twelve horses; threshed 8,000 bushels of oats and 700 bushels of kafir corn with a 24 x 40 New Racine thresher with self-feeder and extension web stacker and wagon loader. Total repairs, one crank, \$1.00.
- E. W. KOESLING, Bloomington, Kan., plowed 240 acres, pulled two disk harrows over 190 acres, drilled fifty acres, and cut 110 acres of wheat.
- DEB BLISS, Osborne, Kan., plowed 340 acres and drilled 200 acres of wheat.
- GEORGE HAAS, Jr., La Crosse, Kan., plowed 300 acres, disked 75 acres, harrowed 100 acres and pulled corn-binder 125 acres.
- D. ENGLER, Woodston, Kan., 65 years of age, and operates a Big Bull himself, plowed 200 acres that ordinarily required ten horses.
- F. O. PAYNE, Hays, Kan., plowed 400 acres, using an average of 1 1/2 gallons of gasoline to an acre; work that ordinarily has required twenty horses.
- G. A. BLISS, Osborne, Kan., plowed 370 acres and seeded 240 acres.
- H. W. ZIEBEN, Pawnee Rock, Kan., plowed 500 acres at an average cost of two gallons of gasoline per acre.
- JOHN H. LOWREY, Lone Wolf, Okla., in addition to plowing, cut 315 acres of wheat, filled eighteen silos (2,096 tons), using No. 15 Ohio Cutter, blowing as high as 42 feet; threshed 12,895 bushels of wheat, 9,226 bushels of oats, 1,500 bushels of maize and 4,500 bushels of kafir corn, using 28-inch Case Separator; also ground 300 bushels of kafir corn.
- C. V. PIKE, Danville, Kan., cut 25 acres of alfalfa in 8 1/2 hours, using two 5-foot mowers and burning ten gallons of gasoline.
- JESSE A. CUBBAGE, Cole Camp, Mo., in addition to plowing, filled thirteen silos and always had plenty of reserve power.

We have letters from hundreds of farmers telling of the efficiency of the BIG BULL for all kinds of draw-bar and belt work, the low cost of operation, ease of handling, small upkeep cost, and its value to every farmer.

"The Bull with the Pull" **\$645.00** F. O. B. MINNEAPOLIS

The BIG BULL develops 7 H. P. at drawbar—20 H. P. on the belt with plenty of reserve power. The bull wheel and guide wheel run in the furrow, making the BIG BULL TRACTOR absolutely self-steering. One-man outfit. The BIG BULL TRACTOR is acknowledged to be the greatest farm implement of all time. Deliveries are being made now—this is the time to get your BIG BULL TRACTOR. You can use it almost every day—you will have it on hand, ready to do your spring plowing early, at low cost. There is a BIG BULL TRACTOR dealer near you, who has BIG BULLS on hand for immediate delivery. Get in touch with him.

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A SOLID PROPOSITION to send new, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk making heavy or light cream. Bowl is a sanitary marvel, easily cleaned. **ABSOLUTELY ON APPROVAL.** Gears thoroughly protected. Different from this picture, which illustrates our large capacity machines. Western orders filled from western points. Whether dairy is large or small write for handsome free catalog. Address: **AMERICAN SEPARATOR CO., Box 3061 Bainbridge, N. Y.**

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Removes Bursal Enlargements, Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from any Bruise or Strain; Stops Spavin Lameness. Allays pain. Does not blister, remove the hair or lay up the horse. \$2.00 a bottle, delivered. Book 1 K free.

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Here is a book every landowner needs—Ropp's New Calculator. It gives the answer to any problem almost as quickly as you can tell time by a watch. Given to help advertise **SQUARE DEAL FENCE**. The fence that stays tight and firm the year 'round. Outlasts any wire fence made. Fence Book tells why **SQUARE DEAL FENCE** is better. Write us. Book free, postpaid. **Keystone Steel & Wire Co., 735 Industrial Street, PEORIA, ILL.**

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No lost seed, if you hitch a **Kramer Rotary Harrow** behind your plow. Discs, levels and pulverizes all in one operation. Great improvement over the old method. Light draft. No extra horses. Easily attached to any plow. Makes a moist, finely pulverized seed bed. Seed germinates quickly. Gives a quick, even stand. Thousands already in use. Users all enthusiastic. Write now for big free illustrated folder and special offer. Find out about our agency proposition. **KRAMER ROTARY HARROW CO., 120 Main St., MORTON, ILL.**

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Kansas Farm  
Lands.

Quick Action

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Topeka, Kansas



## WINTER CARE OF STALLION

**H**OW to keep the stallion in prime condition at a minimum cost during the winter season, is a question frequently asked. Many valuable stallions are seriously injured during this season of the year from poor care and improper feeding. It is argued by some that they cannot afford to feed the stallion much during the winter because it is a season of no income. Therefore, the horse is starved and neglected. Where this policy is followed we find the stallion banished to some out-of-the-way corner of the farm where he is kept in a dirty stall and given no chance for exercise in the open air. He is never groomed and if he is shown to any one the visit to his stall is always prefaced with an apology for conditions. It seems most inconsistent to put a thousand or two thousand dollars into a good stallion and then so neglect him during this idle season of the year as to make such apologies necessary.

It would be much better for the horse-breeding industry of this country if all stallions were worked. The feeding of the stallion that works is an easy problem in comparison with feeding one kept in idleness. In the words of J. H. S. Johnstone, in The Horse Book, "Thrice blessed is the stallion that works every day, lives in cleanliness and comfort among other horses, sees human beings and often hears the human voice."

To be a success as a breeding animal the stallion must be in the best of condition and he cannot be so kept without proper exercise. When kept in the box stall he cannot get enough exercise and even if a small yard is provided it is seldom that the stallion will exercise enough for his own good. There is always more or less danger that a horse will injure himself in attempting to exercise in the small yard as a result of the short turns that must necessarily be made. Breaking the horse to work in the harness is the simplest way out. This can easily be done provided the man who works him understands stallions and knows how to give them the proper care while being handled in this way. The stallion should be broken for harness before he is two years old. Few are broken, however, at this age, and those who work stallions must of necessity break them after they have reached maturity. It is not a specially hard job to break a stallion to harness. They are seldom afraid. It must always be remembered that the stallion, even though big, is usually soft and must be gradually toughened to work. He should be given only a few hours of light work each day for several months. During the season when not used for breeding purposes, the stallion, after becoming hardened to it, can do a full day's work, and at least a half day's work during the breeding season. A successful horseman of Kansas who always works his stallions, uses a jockey stick on them when they are in the harness, one end being fastened to the bit of the horse and the other to the hames of the harness on the other horse.

The stallion at work should be fed the same as other work horses are fed. They should not have too much hay. The amount of grain to feed will vary, of course, with the work the horse is doing and his general condition. He should not be permitted to run down in flesh, but corn or kafir should not be used as the exclusive grain ration. Bran is always a valuable supplement to these grains and it is always well to feed some oats if they are not too expensive.

A stallion that is used for ordinary work about the farm during the winter season, such as hauling manure, feed, etc., and fed a well balanced work horse ration, will be in the best physical condition with the coming on of the breeding season.

### Dry-Curing Pork.

After the meat is cut up, rub each piece of meat with fine clean salt and allow it to stand from six to twenty-four hours in a pile on a bench or a table so the bloody serum can drain out. For one thousand pounds of meat, prepare the following curing mixture: Fine clean salt, 40 pounds; white or brown sugar, 10 pounds; white or black pepper, 4 pounds; red pepper, half pound. Mix thoroughly.

Rub each piece of meat thoroughly with this mixture, taking care to see that it penetrates the muscles around

the ends of the bones of the hams and shoulders. Pile the meat carefully with the skin down, in a cool airy place. Avoid damp, musty cellars. Do not make the pile more than three feet deep, or let the meat lay more than three days without another application of the mixture. After the second application no other need be applied for five or six days more.

A fourteen-pound ham should be allowed to cure for three weeks, or a day and a half for each pound of its weight. After this treatment, it should be thoroughly cured. Only two-thirds as much time need be allowed for giving a mild cure to meat to be used during the spring.

Wash each piece with warm water and remove any extra curing mixture. Wipe it dry and hang up for smoking. When all the meat is ready, smoke with hickory, oak, apple, or in fact any wood except that of the pine family. About twenty-five smudges make a good mild smoke, but the taste of the user should determine this. Country cured meat may mould in damp weather without any injury, but it must be carefully wrapped or sacked to keep out the skippers.—Press Bulletin, Missouri Experiment Station.

### Keep Hogs Healthy.

Here is some good hog advice from the Missouri Experiment Station:

Disinfect hog yards occasionally with unslaked lime; it's good cholera insurance.

Serum and sanitation make the best preparation for the warfare against hog cholera.

Keep cholera hogs and carcasses away from the stream and insist that your neighbor do the same.

The straw shed for hogs is almost sure to be either damp or dusty. Either condition invites disease.

Keep gunny sacks saturated with crude oil where hogs can rub against them. Raise more hogs and fewer lice.

Kill lice with crude or fuel oil sprinkled on the hogs at feeding time, applied to rubbing posts or used as a two-inch layer on top of the water in a dipping tank.

Coughs and pneumonia from dusty beds may incidentally be prevented if louse-infested beds are oiled. Breathing dust may cause death from pneumonia and certainly renders hogs less resistant to cholera.

The Missouri Agricultural Experiment Station has carefully tested each of these remedies and so have thousands of good farmers. They have stood the test but are not substitutes for serum treatment, for they resist but do not entirely prevent cholera. These thrift-producing measures would pay if cholera did not exist.

Sprinkle freshly slaked lime about one-sixteenth of an inch deep over the lots, sprinkling quarters once every month or two. At this rate a barrel will kill the germs on about 1,280 square feet of lot space. Combat worms by feeding a mixture of four parts of charcoal, three parts of copperas, three parts of common salt, three parts of Glauber's salt, three parts sal soda, one part sulphur. Mix in hundred-pound lots and keep in a dry place where the hogs can help themselves. It is a good "conditioner" and has been thoroughly tested at the Missouri Agricultural Experiment Station and on many farms.

### Buying Feed.

B. R., Osage County, asks if a farmer is justified in buying feeds on the market to supplement farm-grown feeds. He states that farmers have been so generally urged to grow all their own feed that he wonders if it is ever profitable to buy feed.

In our judgment a farmer is justified in buying feed whenever he can figure a profit by so doing. A good deal depends on the kind and number of animals kept. The farmer who makes live stock production the big end of his business can many times buy feeds on the market and by turning them into animal products reap a handsome profit. On well managed live stock farms such feeds as tankage, cottonseed meal, oil meal, shorts and bran must nearly always be fed to get the largest returns from the farm-grown feeds. A farm may produce a great deal of corn or kafir, but this must be balanced with feeds rich

## THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

## Gombault's Caustic Balsam

IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. **HUMAN CAUSTIC BALSAM** has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints.

**REMOVES THE SORENESS—STRENGTHENS MUSCLES**  
Cornhill, Tex.—"One bottle Gombault's Balsam did my rheumatism more good than \$12.00 paid in doctor's bills."  
OTTO A. BEYER.  
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in protein. It is always desirable to grow this protein on the farm as far as possible, in the form of alfalfa, clover, cowpeas, or soy beans, but while this should be the general plan it should not be laid down as a hard and fast rule. In fattening hogs for market, for example, a little tankage will nearly always be a better supplement to the corn than alfalfa hay, and through its feeding enough better gains can be made to add twenty-five or thirty per cent to the value of the corn fed over the results from feeding it alone. On farms where high-producing milk cows are kept, it will nearly always pay to buy some concentrates, such as cottonseed meal. Even where alfalfa hay can be grown, a little cottonseed meal can be profitably fed to heavy milking cows.

Every farm has its peculiarities. The crops to grow are those that can be grown best. In striving to produce all the different kinds of feed needed, time and labor may be wasted that could be more profitably used in growing the crops better adapted to the conditions. If the farm-grown rations are not properly balanced to give best results, buy such concentrates as are needed. As long as these purchased feeds return a profit, there is no need to worry over the feed bill. A farm with a big feed bill might easily be more profitable than one with no feed bills.

All purchased feeds bring fertility to the farm. This is a source of profit to consider. On a farm that can grow silage crops, some alfalfa hay and a cash crop of some kind, the yields of every one of these can be increased by adding fertility to the soil. The fertilizing elements of a ton of cottonseed meal at market prices for commercial fertilizers would cost not far from \$20. Those of wheat bran, over \$10; shorts, over \$7. In feeding these feeds to farm animals, approximately 80 per cent of the nitrogen, phosphorus and potash is received and may be used in building up the fertility of the farm.

#### Wintering Idle Horses.

On nearly all farms there are more work horses than are needed during the winter season. This is more generally the case on farms largely devoted to grain production rather than on those where considerable live stock is handled. The maintaining of these horses during this idle season is quite an item of expense in the growing of crops. These idle horses are giving no return whatever, but they must be fed. It will not pay to keep such horses in the barn and feed them grain. In fact, it is not necessary, for they can be kept in good condition when not working by feeding them largely on roughage.

If kept out of the barns, labor is saved, and it is better for the horses to be "roughed" through the winter months than to be kept in close confinement. They should be given the run of the yard or lot during the day, and can be permitted to run in pastures and stalk fields. They should, of course, be provided with a good shed, one that is thoroughly dry and well supplied with bedding. Horses will stand cold weather better than any other farm animals. Nature provides them with protection by growing a heavy coat of hair, and the shed to protect them from rains and snows and the winter winds is all the shelter they need.

High priced feed should not be given these idle horses. They will do very well on hay, oat straw, cornstalks, cane or kafir forage. Little or no grain will be necessary.

Of course, a horse wintered in this way cannot be put to hard work in the spring without a period of preparation. Six or eight weeks before the spring work is to begin, they should be started on a small grain ration, and should be given some light work. There may be some inconvenience in hitching up different teams to do the necessary hauling about the farm, but it will be worth while in getting all the horses in condition to stand the heavy work of the spring. The grain ration should be gradually increased so that by the time hard work begins they are being fed the regulation allowance.

Growing colts and brood mares cannot be handled and fed as cheaply as can the idle work horses, and it would be a mistake to keep these young colts and mares in the same lots with the mature work animals. Colts must receive considerable protein in order to properly develop. In addition to having a better quality of hay, they must always be fed some grain through the winter season.

#### Clean Dairy Not Expensive.

Dairy farming in Kansas is on the increase. It requires more and better housing than ordinary live stock farming, and a great many good barns are

being built. Every up-to-date dairyman takes pride in the appearance of the place where his cows are housed and milked. In the handling of milk cows many years of experience have shown that the following points must be considered. These have been formulated by the Dairy Commissioner of Wisconsin:

Milk drawn from filthy cows, or from cows kept in a stable that is not well lighted or ventilated, or that is filthy from an accumulation of manure, or milk exposed to foul or noxious odors cannot be lawfully sold or manufactured into an article of food for sale.

1. Keep the barn clean, well ventilated, well lighted and free from dust.

2. Whitewash the barn at least once a year. It will add to its appearance, increase its value, lighten the dark corners, and make it more sanitary.

3. It is desirable to have dairy cattle in a barn by themselves. The odor from horse stalls, filthy calf pens or hog pens is objectionable, because it will taint the milk when it is drawn.

4. When constructing a new barn, or if the old one is remodeled, see that the walls are smooth and that the ceiling is tight. The floor and the base of the walls should be constructed of cement in order that the liquid manure may be saved and removed.

5. Give the cow a chance to keep clean. She cannot do it if the stall is too long or too short or not high enough. Cow stalls should be so constructed that the cows will lie with their heads in the manger, otherwise they will be compelled to step backward before lying down, in which case they have no chance to keep clean. A large gutter and adjustable stalls that line all the cows up to the gutter are important factors in keeping the cows and floor clean.

6. An abundance of bedding in the cow stalls makes for clean milk, clean, contented cows, clean floors, and the saving of the liquid manure. If bedding or other absorbents are placed in the empty gutter, the liquid manure will be absorbed and held at the bottom. To some extent that practice prevents the cows from soiling themselves.

7. The manure should be removed daily and the manger kept clean. Cobwebs should be swept down and bespattered walls washed.

8. Manure should not be placed against the barn or where the cows will be compelled to wade through it in going to and from the barn.

9. Even when the cows live out of doors in summer and are in the barn only at milking time, failure to clean the floor and gutter regularly will result in foul odors.

10. During the summer months cows should not be kept in the barnyard over night. They should have a clean place to lie.

#### Fathers and Pig-Club Boys.

At a Kentucky fair two pure-bred Jersey litter mates were shown. One belonged to a pig-club boy, the other to his father. Both purchased their pigs at eight weeks old. Both started even.

The records of the boy show his pig weighed twenty-seven pounds at that time. Within the next four months she had gained 167 pounds at a cost of five cents a pound; or one and two-fifths pounds daily gain on a ration of corn, flour, shorts, and buttermilk. The father's pig, unrecorded, shifted for herself. At the fair the boy's sow weighed 194 pounds and was a prize winner; the father's weighed fifty and one-half pounds.

Another father selected a pig from the same litter as did his two pig-club sons. His pig was put in a pen and fed corn. The two pig-club boys followed instructions and fed properly balanced rations and used pasture. At the fair the father's pig weighed a little over fifty pounds; the prize-winning hogs of the boys averaged over 200 pounds each. The sons know it cost them four and one-half cents a pound to produce their hog; the father does not know what his hog cost.

## Have a "warm-all-over" house

In cold weather do you hate to go upstairs or from one room to another? Do you huddle up in one or two rooms and often suffer from chill or drafts? If you are comfortable in only, say, 3 of the 8 rooms of your house, you are getting the use of only *three-eighths* of what your house costs—a poor investment! Make a warm, cheerful home out of your whole house by putting in an outfit of



Do not live like this five months every year!

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IDEAL Boilers and AMERICAN Radiators enable you to enjoy every room, hallway, nook and corner of the house. Not only do you get the full use and enjoyment of the home, but IDEAL Boilers and AMERICAN Radiators will actually pay for themselves in the fuel savings.

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Phone your local dealer but specify and insist on IDEAL Boilers and AMERICAN Radiators. Do not take any other. In so important a matter you can not afford to run any risks, especially when IDEAL Boilers and AMERICAN Radiators are so fully guaranteed and cost no more than inferior makes. They protect the farm house against fire risk and run independently of water works supply or mains, as same water is used over and over again for years.

The smallest farm cottage or largest house is equipped at very reasonable cost. At present low iron market the cost will surprise you. The IDEAL Boiler is put in cellar, side room or lean-to and will burn any local fuel—wood, oil, gas, lignite, hard or soft coal (even cheap grades of pea coal, slack, run of mine, screenings, etc.). If warm cellar spoils vegetables, boiler and pipes may be covered and all heat then goes to upper floors.

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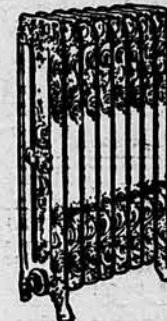


A No. 4-12-W IDEAL Boiler and 270 ft. of 38-in. AMERICAN Radiators, costing the owner \$200, were used to heat this farm house. At this price the goods can be bought of any reputable, competent fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

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plished by this means. Such discipline will not develop the best type of manhood or womanhood. To be scared into doing a thing or not doing it, is not an incentive to seek the real reason why it should or should not be done.

Throw around the child the influences that build and strengthen, rather than allow those of a tearing-down nature to creep into his life.

#### Toys of Then and Now.

We often wonder if the children of today, with all their modern toys, are happier than were the children of the days of home-made playthings. It is hard for us to realize how a child could be happier than one very well known to us who had dolls that in their natural state were known as small gourds. These were dressed and undressed daily, and when it was the child-mother's turn to herd the cows away from the orchard, these strange creatures were taken along and put to sleep with the tune of a home-made whistle.

There were several other dolls of bisque and china in the family, too, but it was necessary to have on certain dresses to play with these—and not the dresses that were suited to every-day wear—so the gourd dolls came in for more attention and were put to bed each night in a bed hewn out of a log and set up on four high feet. This bed had once served a more useful purpose, but after being placed on the east side of the summer kitchen it had become the property of the younger members of the family.

We firmly believe in toys and in childhood being made as happy as possible, and would suggest that in the place of one of the manufactured toys a home-made one be substituted for variety.

#### Wintering Cannas.

Cannas are very satisfactory plants—easy to grow and inexpensive enough for general culture. The bulbs do not cost much, and by keeping them over, a large supply can soon be accumulated, as they increase very rapidly. Whenever a blooming stalk is sent up, two buds start out each way from it, making two new stalks; from the base of each of these two more buds grow, and in one season as many as a dozen bulbs can be grown from one. I have grown even more than a dozen. While they require more and different attention than do gladiolus or dahlia bulbs, they can be easily stored in a warm cellar, or any

place that can be kept from freezing and yet have a good supply of air. But unless one has a place where they can be kept damp and warm, it is not an easy matter to keep them through the winter, and failure instead of success is apt to follow. I have tried, and have known several others who have tried to bury them in pits in the garden as po-

when the tops froze. It is evident these tubers must have air and yet be protected from freezing.

The clumps should be dug after the first good freeze. The tops will die down to six or eight inches above the ground. Cut off the tops and dig the clumps so as to get as much of the soil on the roots as possible. The soil should

soil should be kept moist, but not wet, during the winter. If the cellar is too warm, and the soil is kept too wet, the plants will start during the winter and this will make them lose some vitality, and if too large when planting time comes they will not be worth anything. I have planted them, though, with the tops six inches long and they did well. I have often successfully potted these plants, but I prefer to keep the bulbs dormant until time to plant them in the spring.

The bulbs should never be divided in the fall. They should be divided at planting time—whether in pots or outside. In this way they have no chance to lose vitality, as they will do when cut from the main roots and exposed to the air before planting. The tubers will dry during the winter when separated and buried in sand, and the spring there will be little, if any, sign of life in them.—L. H. COBB.

There is something sad about the passing of the Christmas season. The cheerful, thoughtful-of-others spirit seemingly is shelved for another year and the atmosphere grows heavy with individual cares. Let us try to hold the Christmas spirit over and drop a little cheer as we go along, where the supply has not lasted as long as has ours.

#### Oatmeal Cookies.

- 1 Cupful brown sugar.
- ½ Cupful butter.
- 2 Eggs.
- ½ Cupful sweet milk.
- 2 Cupfuls rolled oats.
- 1½ Cupfuls flour.
- ½ Teaspoonful cinnamon.
- 1 Teaspoonful soda.
- 1 Teaspoonful salt.
- 1 Cupful raisins.
- 1 Cupful nuts of any kind, or currants.

Drop on buttered pans and bake slowly.

#### Queen Pudding.

- 1 Quart milk.
- 1 Pint bread crumbs.
- 1 Lemon.
- 1 Cupful sugar.
- 1 Large tablespoonful butter.
- 2 Eggs.

Soak bread in milk until soft. Beat yolks of eggs light, add sugar and butter and the lemon juice and grated rind. Bake forty-five minutes in a hot oven. Remove from oven, spread with jelly or marmalade, cover with whites of eggs beaten stiff and sweetened with sugar to taste.

### FRIENDS OF OTHER DAYS



**T**HERE is a note of sorrow in the passing of the old "soddie" which only a few years ago sheltered the Western Kansas family from the heat and cold, the sunshine and the storm of that section. If these crumbling structures could talk, some would tell of desertion because of prosperity having come to their occupants, others of dead hopes and a fruitless struggle against a combination of circumstances and conditions too adverse to be conquered by the early settler who conscientiously practiced methods brought with him from an older and entirely different section.

Many, too, would be the tales of happy gatherings sheltered and dined, in keeping with the rules of true hospitality. Where the buffalo grass and Russian thistle now grow undisturbed near the door, children once played as joyfully as children can. Now the sound of voices and laughter is heard only as occasional overland travelers stop to inspect the object that from the road seems to be a cross between a house and a haystack.

But to those who have once called it home, the memory of the "soddie" and of the days when it sheltered them, will always be dear.

A few of these landmarks are still occupied and are very comfortable houses. We hope these may be preserved for many years to come—even though newer type residences are built—for they bespeak an interesting and important chapter in the history of Kansas.

tatoes or root crops are buried, but this was not successful on account of rotting. I have piled dirt over the plants to a depth that would keep them from freezing, thinking this would protect them, but they would die, though in Oklahoma in mild winters they have lived over in the row without any protection except the foliage that dropped over the roots

be a little wet when digging; this makes it stick to the roots better. However, if the ground is too wet it will not hold so well. The clumps should be moved to the storage place as fast as dug, and placed close together. They may be stacked on top of each other, but this is not advisable. Work soil around the roots until they are all covered. The





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We receive many letters similar to this: "Last season I installed a Queen as an experiment. It hatched 18 per cent better than eastern made machines and 11 per cent better than any other machine made in the west. All machines were run under exactly the same conditions. I recommend the Queen to everybody inquiring which is the best, and especially to beginners."

—John Bowen, Littleton, Colo., Colorado Poultry Fanciers Association.

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Awls have inquired as to where they could obtain supplies. We will supply you at the following prices:

Extra Thread, in 50-yard skeins, fine or coarse; each, 15c; per dozen.....\$1.00  
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One Skein Thread and Set of Six Needles, or six of any kind, only......25  
Sewing Awl, complete with reel of thread and six needles, with one year's subscription to Kansas Farmer 1.10

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## THE IDEAL HEN

In order to succeed in breeding any animal, it is necessary for the breeder to have an ideal and his efforts must be for the production of that ideal.

Different breeders have different ideals. One man strives to produce the high-scoring prize-winning hen, paying little or no attention to egg production, while another tries to produce the high-laying hen and ignores fancy or show qualities. All will agree, however, that the highest ideal is the hen which scores high, lays a great many eggs, and lives a long time.

Of the many lessons learned in the egg-laying contests, one which stands out most prominently is that color has nothing to do with egg production and that high-scoring birds are often high producers.

In order to get an idea of the standing in the show room of the exhibitors who have had high-producing hens in the contest at Mountain Grove, a letter was sent to each contestant who has had hens in the contests which produced 200 eggs or over.

Sixty contestants were heard from, giving the prize-winning records while their hens were making the high record at Mountain Grove. One thousand eight hundred twenty-three prizes were won by these contestants.

Eight contestants had not entered any shows, therefore had won no prizes. Many of the hens which won in the egg-laying contest won prizes before and after the contest. These prizes were won in San Francisco, New York and Chicago shows, ten state shows, eighteen state fairs, and many district, county and local poultry shows. This would indicate that many breeders are reaching the high ideal.

These records, together with observations made during the contests, indicate that color of bird, color of eye, kind of comb, etc., have nothing whatever to do with egg production, and that the fine show bird which scores high is just as sure to be a good egg producer as the low-scoring bird, and as the bird which scores high usually carries herself like she thought "life is worth living." She has high vitality, which indicates long life.

Summarizing the fancy and utility question, we find some contestants who win in egg production but not in the show room. Others win in the show room but not in egg production, while others win in both shows and egg production. This leads us to believe that it is possible to go to either extreme by breeding, or to combine the two.—Missouri Experiment Station Bulletin.

A poultry journal recently had an item to this effect: "At the late Danville show Mr. Breeder refused an offer of \$500 for one of his White Wyandotte pullets. Mr. B. is one of the most successful breeders of White Wyandottes in the country and long ago learned that he could not afford to part with his best stock even at such a tempting figure. What would you do?" Just offer us \$500 for a pullet or a cockerel or a pen and just see what we would do. The pullet would be yours, and the money ours, in two jerks of a lamb's tail. We have no patience with a man who, after winning a prize at a poultry show, raises the price of his bird to an unreasonable figure; that is, if he wants to sell at all. We know that the winning of a prize enhances the value of a bird, and to a certain and reasonable extent this is all right and proper. But when a man's head swells so much that he makes the price preposterous, he becomes a laughing stock to all reasonable persons. Of course at times a man might have a prize-winning made that he wanted in a breeding pen, that would be of more value to him than to anyone else, and to put a prohibitive price on the bird would be all right. We have nothing to say against that. To him, that is sufficient reason for not selling at a fair price. But when a man goes up into the air and puts a fabulous price on a bird simply because it won first premium at a poultry show, is all wrong. The judgment was the opinion of but one man, and the chances are that at the next show, under another judge, the bird would not receive a place. We have known of many cases where a man made a winning at one show and at the very next had no prizes at all. If a man has a bird that has won first prize

at two or three shows, under different judges, he has a difference proposition to deal with. He then has something of permanent and recognized value and if he puts a big price on it, he is justified. But some men, after winning a prize, get so unreasonable as to be ridiculous. They seem to raise the price of the bird at each inquiry that is made. Our advice is that when you have a chance to sell a prize-winning bird at a good round figure, sell him by all means. You have the honor of producing such a bird, and selling it to another person does not take the honor away from you. Don't lose your equipoise, don't lose your head. Once in a hundred years a fool may come along and offer a thousand dollars or more for a bird, but in the meantime take up the offer of a hundred or two and let some other fellow wait for the fool to come along.

The more we think of it, the more we are confirmed in our opinion that one of the greatest drawbacks in the poultry business is the keeping of non-producing fowls. The difference between a snug balance in the treasury at the end of the year, and a deficit; the difference between success and failure, is often caused by having too many non-producing hens on the place. Supposing that out of a hundred hens on the farm you have twenty-five or thirty that are extra good layers and make a good profit. What does it benefit you, if the balance of the hundred—seventy or seventy-five—more than eat up all this profit? Where is the sense in raising chickens if this be the case? That all the drones or non-producers cannot be weeded out of a flock without a trap-net, goes without saying, but a goodly proportion can be detected with proper observation, and they should be eliminated from every flock at the earliest opportunity.

Millet seed is a good thing to have on hand to feed to the chickens, especially when they are confined to close quarters. When the hens are lying around the poultry house doing nothing, throw a handful of millet among the litter and see how soon they will get busy. Even if the seed were of comparatively little feed value, it would pay to feed it to the hens just to keep them out of mischief. For it is when the hens are idle that they acquire the bad practice of feather-pulling and egg-eating. But millet seed is a valuable feed in itself and a good egg-producer. The idea is to keep the hens busy scratching for the small grains. The large grains, such as corn and wheat, they eat in a few minutes, but a lot of time is required for them to find all the small grains of millet.

Those who have attended the fall and winter shows have observed that, as a rule, it is the fully matured fowls that take the prizes. These mature fowls must be hatched early to attain their full growth in time for the shows, and this cannot be done without an incubator wherein to hatch them in January or February. We do not advise the hatching of the bulk of the flock thus early, but one hatch at least should be early if you want to be among the prize-winners.

That prevention is better than a cure is patent to everybody. If in severe weather you will grease the combs of the male birds, they are not liable to get frosted. Glycerine is the best thing that can be used for this purpose. It is used extensively for frosted combs, but rarely as a preventive. It takes a pretty warm house to keep males with large combs from getting frosted in severe weather, and if you haven't such a house, grease the birds' combs and prevent this misfortune. Everybody knows that at a poultry show a bird with a frosted comb has no chance against a bird with a good comb. We saw this exemplified recently at the Federation show. There were three pens of a certain breed. In two of the pens were males with fairly good combs. In the other pen the male's comb had been frosted the year previous and he had lost his serrations. This pen got third prize, though outside of the male bird's comb it was evidently the best pen. When asked why the pen had only gotten third prize, the judge said it was on account of the male serrations being

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STRAWBERRY PLANTS FREE! If you will report as to your success with them, we will send you a box of red berries from June to November. We have counted 60 berries, blossoms and buds on a single plant. A postal will bring the plants, also enough seed of the new CHERRY-ROSE variety to plant a row square of ground. Also a box of perennial ORIENTAL POPPY seed. Send 10c for mailing expense or not, as you please. Write today and get acquainted with THE GARDEN NURSERY COMPANY Box 766, Chicago, Ill.

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E. J. REEFER, the poultry expert, is giving away, FREE, a valuable book explaining how every farm and backyard hen can be made to produce 200 eggs per year. The book contains scientific facts of vital interest to every poultry raiser. Write today for one of the valuable books—FREE.

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WHEN WRITING ADVERTISERS, MENTION KANSAS FARMER



frozen off. It might have been a good comb originally, or it might not have been. He couldn't tell, for the serrations were not there for him to see, and he gave the other pens first and second places in consequence. It will therefore pay one to try to prevent such calamities, first by making the house warm enough to prevent the freezing of combs, or, lacking that, to grease the combs with glycerine.

It seems strange to an old-timer to see so many beginners in the poultry business start in with the newest kind of breeds. He thinks, we presume, that because the new kind is scarce and high in price that everybody will be wanting that kind and willing to pay any old price for them. He never was more mistaken in his life. The new breeds, as a rule, have a hard time in gaining recognition, and as there are but comparatively few that are breeding the variety, there are no calls for new blood, as there are in all the older varieties. A new breed invariably throws a great percentage of off-colored birds and when buyers get such they are dissatisfied, and the beginner soon finds himself burdened with an undesirable breed on his hands that nobody wants at any price. Beginners should beware of the big claims made by those who are trying to boom some new variety. Their claims of superior egg production and better flesh are generally confined to the paper they are written on. A beginner cannot go wrong in buying some of the old and tried varieties and if he raises any extra good specimens there is always a ready sale for them and at good prices.

There is a product on most farms that is underestimated as a poultry food, and that is alfalfa leaves. In every hay mow where alfalfa is stored there are great quantities of these leaves and they are not utilized as they ought to be. Their very commonness and great quantities minimize their value. Pound for pound there is more protein in alfalfa meal than there is in bran. This has been proved by analysis, and alfalfa meal is composed of the fiber as well as the leaves of the plant. The leaves alone would be much richer than the meal and therefore of more value than bran. If one had to buy them and pay \$1.20 per hundred for them, as for bran, he would appreciate them much more than when they are lying in great quantities in the hay mow. All you who have them, feed more of these alfalfa leaves to your hens. Scald them with boiling water, add corn meal to this till you make a crumbly mass. If a little salt is added it makes it all the more palatable. If in place of the hot water, a soup could be substituted, this would be still more palatable, and prove to be a balanced ration that would surely produce lots of eggs.

H. M. Cottrell, agricultural commissioner of the Rock Island Lines, is authority for the statement that in the fourteen states in which these lines operate, there are nearly 300,000 farms without a chicken on them; 60,895 in Texas alone. The late census showed that in New Mexico the average number of fowls per farm was only 15, in Arkansas 27, in Louisiana 29, and in Texas 33. Mr. Cottrell is planning a campaign for the development of the poultry industry throughout the territory served by his lines.

Without an incubator, however, it is folly to think of hatching chickens thus early. It is time to send for the incubator catalogs.

Breeders of the Asiatics and other large varieties of fowls are already talking of starting their incubators.

And this is none too early, if the fowls are to be mature by the time the fall shows commence.

To have every chicken on the farm of one variety looks better and does better than all varieties mixed together in each chicken.

Even though a person has no birds on exhibition at a poultry show, he can gain lots of information by attending the same, that will be of immense benefit to him in his business.

Don't let the sick chickens die. Save them. Send 4c for valuable 80-page Poultry Book. Conkey Co., Cleveland.—[Adv.]

#### A Makeshift Smokehouse.

It is not necessary to build a real "house" to provide smokehouse facilities for home curing. A bottomless barrel may be made to serve the purpose.

Dig a little trench into a hillside, mak-

ing a fire box a foot wide and eight or ten inches deep. Cover this with a piece of sheet iron, leaving a smoke hole at the upper end. Place the bottomless barrel over this smoke hole, chimney fashion, lay a stick across the top of the barrel to hang the meat on, put a cover on the barrel so as to keep rain out without cutting off the draft, get a little piece of tin or sheet iron to serve as a door to the furnace, and the smoke-house is made.

#### Bad Eggs Reduce Profits.

The time will surely come when the producers of eggs will realize the necessity of giving the eggs they produce better care. They will provide better hen houses; will have better hens, will gather the eggs regularly, will see that they are clean and sound in every way. They will realize that the 17 cents loss on every dollar's worth of eggs sold is almost criminal negligence; and we fully believe that it is criminal negligence when we consider that—figured on the total output of eggs—this 17 cents on the dollar amounts to fifty million dollars. But we believe this will be stopped.

We can see evidences of it every day. State legislatures have taken the matter up, state food officials have undertaken to prevent the sale of eggs unfit for food, agricultural colleges are giving instructions in poultry raising and egg production, states, counties and districts are having their annual poultry shows—all of which are of an educational nature. Then the public press has taken the matter up, and it is pointing out this great waste and the injustice of offering anything but a pure, sound, wholesome egg for sale.

Public sentiment is becoming aroused over the sale of bad eggs. Just recently the city of Peoria, Ill., undertook to pass an ordinance requiring that every egg offered for sale in the city should have the date it was laid stamped upon it. The ordinance failed of passage, but it indicates the sentiment that exists; and this sentiment, in time, will do away with the sale of bad eggs, and will soon save to the producers this 17 cents on every dollar's worth produced, and in the end they will be fifty million dollars richer, and the consumer will feel that he has received full value for his money.—Chicago Dairy Produce.

A good rule to follow would be to provide a convenience for the housewife each time a piece of farm machinery is bought or the outside equipment is reinforced. By this means the whole plant would grow more efficient and no one part would overbalance another. And is there any real reason why it should?

Don't forget that even though the weather is cold, hogs should be watered regularly.

Will the practical things learned at the Farm and Home Week meeting be used to advantage on your farm, or will they be remembered only as experiments worked out at Manhattan? The farmers of our state can profit by the work carried on at their great school only in so far as they put into practice on their farms the methods that have proven their merit in the experiments conducted.

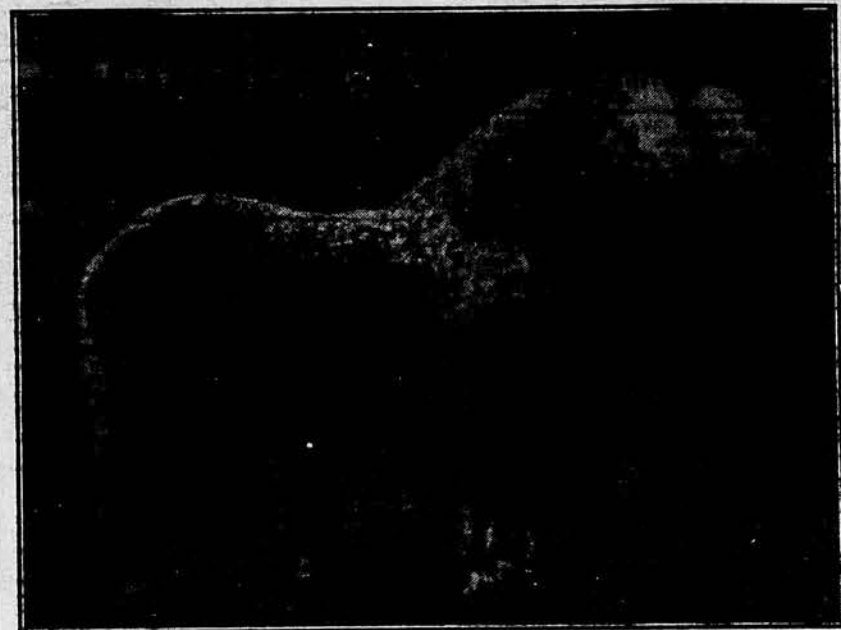
#### DO YOU WANT A MOTORCYCLE FREE?

Now that the most of the farm work is finished for this year, there will be more or less spare time to turn to a good advantage. KANSAS FARMER offers to the young men a splendid opportunity to make good wages and win one of the new 1916-Model Motorcycles. Any young man is eligible to join our new Motorcycle Club and it costs nothing to join; you don't even have to be a subscriber to KANSAS FARMER. By our plan many others have made good wages during their spare time right through the winter months and won a \$265 Motorcycle working only a short time. Turn to the page in this paper with the pictures of the motorcycles and read the full announcement. The work is easy and pleasant and every one of the motorcycles we have given away has been won with far less dollars in subscriptions secured from others than the same motorcycle would have cost in dollars if purchased of a dealer. No one can get very many subscriptions in our short campaigns.

Those who have already won the motorcycles and other prizes we have given away highly recommend this work, saying it was easy and pleasant and that they were glad they took part. A postal addressed to Manager Kansas Farmer Motorcycle Club, Topeka, with your name and address, will bring full details of our plans.

## LEE BROTHER'S ANNUAL SALE PERCHERONS —JANUARY 17, 1916—

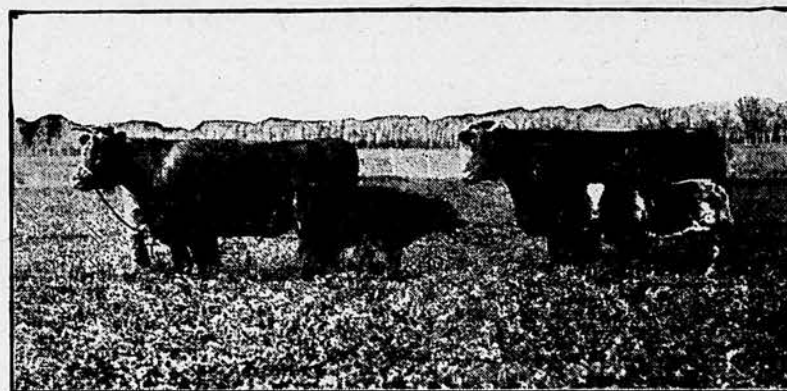
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40 - Imported and American Bred Mares and Stallions - 40  
THIRTY MARES—TEN STALLIONS.



Twenty mares are either bred to or sired by Scipion. Several imported mares, some bred to Glacis, the imported stallion that topped J. C. Robison's sale. Our whole show herd sells, including grand champions at two state fairs, the first prize two-year-old stallion of Oklahoma sired by Scipion, one first prize yearling stallion, one first prize yearling and first prize two-year-old filley sired by Scipion. Send for illustrated catalog containing a number of beautiful pictures of Percherons and Holsteins. We have 200 head of Holstein cattle on our farm. Don't fail to get our catalog. Write at once to

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AUCTIONEERS—JONES, BRADY, SNYDER, CREWS AND CONDRAV.

## ROENIGK'S SHORTHORN CATTLE SALE At CLAY CENTER, KAN., JAN. 20, 1916 25 Head of Richly Bred Shorthorns



Nineteen Females, consisting of choice cows, three-year-olds, two-year-olds and yearlings. Three-year-old heifers weighing 1,300 pounds, cows weighing 1,400 to 1,500 pounds. Some of them splendid milkers.

The bulls include my great herd bull, Kirklevington Lad 373446. This bull is four years old, a splendid breeder, very gentle, weighs close to 1,900 pounds, and a show bull. Will also sell two choice bull calves and three fine yearlings.

Sale will be held at Dr. Monney's barn, one block east of Rock Island Depot, Clay Center. Send at once for catalog. Address

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**MEN WANTED IN EACH COUNTY** with rig or auto to engage in a profitable, dignified business. Big money and easy work selling the famous Seelye Products, Vasa-Tusa, Fro-Zona, etc. Needed and wanted in every home. They sell themselves. The Seelye Company, 438 Seelye Bldg., Abilene, Kan.

**TELEGRAPHY—MORSE AND WIRELESS.** Also station agency taught. R. R. and Western Union wires and complete Marconi wireless station in school. Graduates assisted. Marconi Co. employs our wireless graduates. Low living expense—easily earned. Largest school—established forty years. Investment \$25,000. Correspondence courses also. Catalog free. Dodge's Institute, Bonner St., Valparaiso, Ind.

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**FERTILE VIRGINIA FARMS ALONG** Chesapeake & Ohio Railway, at \$15 an acre and up, on easy terms. Mild climate, rich soil, abundant rainfall, plentiful and cheap labor. Convenient to eastern markets, also to good schools and churches. Write for free illustrated farm home booklet, "Country Life in Virginia," and low excursion rates. Address R. T. Crawley, Indus. Agt., Room 1032, Richmond, Va.

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**SEND DESCRIPTION OF YOUR FARM** or ranch. We have cash buyers. Don't pay commission. Owners only. Write National Real Estate Exchange Association, Peru, Ill.

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## CATTLE.

**RED POLLED. WILKIE BLAIR, GIR-** ard, Kan.

**FOR SALE—REGISTERED HOLSTEIN** bulls. Smith & Hughes, Route 2, Topeka, Kan.

**\$50.00. TWELVE PURE-BRED NON-** registered Galloway bull calves. Frank Barrington, Sedan, Kan.

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**ALYSDALE SHORTHORNS FOR SALE—** Four good young Shorthorn bulls of serviceable age, red in color. Prices reasonable. Write or call upon C. W. Merriam, Columbian Bldg., Topeka, Kan.

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**EXPERIENCED HAND WANTS JOB** on a farm. Will work for board and clothes during the winter. B. C. Campbell, Box 574, El Dorado, Kan.

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**TAKEN UP—BY G. C. RANDALL, IN** Wabunsee Township, Wabunsee County, post office address Wamego, Kansas, on the 8th day of December, 1915, one red steer with no marks or brands, about two years old. Appraised at \$50.00. L. B. Burt, County Clerk.

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**KENTUCKY'S BEST NATURAL LEAF** tobacco by parcel post, prepaid, 4 pounds for \$1.00; 10 pounds for \$2.00. Special prices on larger quantities. State if you want chewing or smoking. S. Rosenblatt, Hawesville, Ky.

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**WHITE ROCKS, SIZE AND QUALITY.** Satisfaction guaranteed. G. M. Kretz, Clifton, Kan.

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**BUFF ROCK COCKERELS BRED FROM** Frisco World's Fair champions, \$5 each; elegant breeders. C. R. Baker, Box F, Abilene, Kan.

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**BLACK LANGSHANS—STOCK FROM** blue ribbon and sweepstakes winners, young and old. Reduced prices. Mrs. D. A. Swank, Blue Mound, Kan.



# Wintering Yearling Cattle

**E**VEN in "roughing" steers through the winter there is need for an understanding of the principles of feeding. The manner in which cattle have been wintered may have quite a bearing on future profits. While connected with the Missouri Experiment Station, President H. J. Waters of the Kansas Agricultural College conducted trials in the wintering of yearling steers covering a period of seven years. The principles established are specially pertinent at this time when so many cattle are being carried through the winter on rough feed. In drawing his conclusions, President Waters wrote as follows:

"In ordinary practice, cattle are kept on the farm in winter to eat the surplus coarse forage, to clean up the stalk fields, and to eat the surplus grass left from summer, and if they pay expenses during the winter the farmer considers himself fortunate.

"It has been pointed out that the gains made from light feeding are relatively expensive. The old notion that light feeding makes cheap gains will not bear investigation. The truth is, other things being equal, the cheapest gains are made on full feed or approximately full feed. As the ration is decreased from this point, the food required per pound of gain increases uniformly until a maintenance ration is reached, when, of course, all of the food given is wasted when considered from the standpoint of gains made. Reducing the feed even below the point of maintenance, so that the animals actually lose in weight, as is often done in unapproved farm practice, the deficit to be met is not only the total cost of the feed used, but the value of the loss in weight as well.

"All of this means that the use to which a steer is to be put the following summer, whether to be grazed or full fed, will influence in a large measure the way in which he can be most profitably wintered. If to be grazed alone, there is a very definite limit to the amount of grain that can be fed without seriously affecting the capacity of the animal to make profitable use of the pasture the following summer. Or, to state it differently, there is a very definite limit in the amount of fat that it will be profitable to put on a steer in winter that is to be grazed the following summer.

"On the other hand, as a general proposition, the smaller the gains, the more costly they are, and, within certain limits, the more expensive the wintering operation becomes, or the larger the deficit from wintering."

"In general, the age of the animal will affect materially the kind, quality and amount of feed that may be profitably used in wintering. In other words, the age will determine largely whether they are to be fed liberally on palatable and nutritious feeds, or to be roughed through on coarse fodders of the cheapest sort. Young cattle will require the former class of feeds in more liberal quantities, while the older cattle will be able to utilize to advantage the poorer and coarser grades. This is principally true because it is more important to keep the animals gaining steadily at the age of six to eighteen months than later. Checking the rate of gain after twenty-four months of age, when the rate of growth has naturally declined and when the tendency of the animal to lay on fat begins to assert itself, will make much less difference than if it be checked in the earlier stages when the tendency to grow and not to fatten is much more marked.

"It is believed that to make growth at the natural or proper time, that is, when the animal is young, and when the tendencies of the entire organism are to convert food into growth, and when it may be made with the least expense of food, room, labor and investment, will be highly advantageous as compared with so feeding the animal as to restrict the growth at this age and depend upon making up this deficiency by liberal feeding later.

"In fact, it is believed that from birth until the steer goes to grass at the age of twelve months, there should be sufficient food of a palatable and nutritious character to supply the requirements of the maximum growth of which each individual is capable, without laying on any considerable quantity of fat. This is, of course, on the supposition that they are not to be fed out as baby beef. In case they are to be made into baby beef, naturally the quicker they are made fat, the greater the profit in the feeding. The first winter, between the ages of six and twelve months, is not the time to attempt to utilize cheap coarse fodders extensively, like stover, etc. These

materials should be used chiefly on older cattle.

"It goes without saying that from twelve to eighteen months of age the cattle should receive an abundance of nutritious grass, so as to promote a uniform and rapid growth or to approximate the full capacity of the animal for growth and to lay on as much fat as possible, for gains at pasture are cheap, and all the fat it is possible to make here will be made at the very minimum of expense.

"As to the winter treatment from the ages of eighteen to twenty-four months, all will depend upon what the immediate future of the animal is to be. If it is to be grazed the following summer as a two-year-old, it should be made to utilize the cheap fodders on the farm, eat out the stalk fields, etc. In any case, it should not be permitted to lose in weight, but should be made to gain liberally, so long as it does not lay on any fat.

"The laying on of fat at this juncture is unprofitable if the animal is to be grazed, for two reasons.

"First—It is unnecessarily expensive to make fat by partial feeding. As has already been pointed out, gains made on anything less than full feed are made at a cost that increases directly as the quantity of food is decreased.

"Second—Fat on an animal affects its ability to make rapid and economical gains the following summer at grass, as has been clearly shown by our results where cattle had been made to gain different amounts in winter and were grazed together the following summer."

"Gains made in winter, whether made by full feeding or otherwise, are relatively expensive.

"Gains made in summer on grass, while cheap, do not ordinarily enhance the value of the animal above the market value of the gains actually made.

"It is only on account of the extreme cheapness with which gains may be made in summer on grass, therefore, that the grazing of cattle is profitable.

"It is on account of the enhancement of the value of the animal by making it fat or in marketable condition in addition to the value of the gains put on that makes full feeding under any circumstances profitable. That is to say, the food required to make the gain in full feeding costs more than the gains made will sell for. Were it not, therefore, for the enhancement of the value of the carcass already produced in a cheap way on grass, the fattening operation would be uniformly conducted at a loss.

"By the process of wintering cattle their value is enhanced to a less degree, it is true, than by the fattening process, but the enhancement of value is necessary to make up the deficit in the wintering process. This enhancement is due to the fact that the steer in the spring has the grazing season, which is the season of profit, immediately before him, and he is therefore worth more to his owner than in the preceding fall, when he faced the wintering period, which is usually a period in which a deficit occurs. The enhancement of value in this case is one mainly of position, whereas in the case of the fattening steer it is one of condition."

## New Auto Road Map.

KANSAS FARMER has just secured a new edition of maps, including the latest corrected map of Kansas showing all railroads and post offices, population of towns, and giving all the information usually found in an up-to-date map. The newly laid out cross state auto roads are plainly indicated in heavy green lines on this Kansas map. Anyone wishing to drive across the state can easily find the best road by following the lines. The size of each page is 28 x 36 inches.

The wall map or chart consists of two sheets, making four pages of maps and other valuable information. Page four contains a large map of the European countries at war. The price of this map wherever sold is \$1. However, by purchasing a large number we are enabled to offer one of these maps, with a year's subscription to KANSAS FARMER, for only \$1.05 postpaid. This offer is for new or renewal subscriptions. We will send the map postpaid and enter or renew a subscription to KANSAS FARMER for three years, for \$2. Address all orders to KANSAS FARMER, Topeka, Kan.

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"You had one on your lettuce," replied Sammy, "but it's gone now."

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M. M. MERCEDES PIETERTJE HOMESTEAD 156587 AT HEAD OF HERD. Pure-bred and high-grade Holsteins, all ages. Large selection, 226 head to choose from. One hundred fifty springing cows and heifers, all the right type, in calf to pure-bred bulls strong in the blood of the best milking strains, to freshen soon, as well as fresh cows on hand. Our pure-bred heifers are choice, some with A. R. O. records under three years of age. Fifteen pure-bred bulls, ages 6 to 24 months, all out of A. R. O. dams and from record sires. Bring your dairy expert—the better informed the easier to please. Write or wire your wants.

**GIROD & ROBISON, Towanda, Kansas**

### HOLSTEIN CATTLE.

F. W. ROBISON—At Towanda State Bank.

## 260 - HOLSTEIN COWS AND HEIFERS - 260

If you want Holstein cows, springers or bred heifers, see my herd. I have them. They are very large, good markings, out of the best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. Want to reduce my herd and will make bargain prices for thirty days.

**J. C. ROBISON**

**TOWANDA, KANSAS**



## TORREY'S HOLSTEIN HEIFERS

High-grade Holstein heifers in single lots or car loads. Prices reasonable. Write, wire or phone.

**O. E. TORREY**

**TOWANDA, KANSAS**

### HOME FARM HOLSTEINS

#### OFFER HEIFER CALVES

Five months up to 15 months; grand-daughters of De Kol Burke, Fobes Tritonia Mutual De Kol and Walker Korn-dyke Segs. Official record and untested dams. Prices, \$95 to \$325.

**W. B. BARNEY & SONS, Chapin, Iowa.**

## Regier's Holsteins

FOR SALE—Holstein-Friesian A. R. O. bulls. One A. R. O. 15.78 pounds butter cow, gave 12,386 pounds milk in 292 days, will be fresh December. Price, \$275.

### G. Regier & Sons

WHITEWATER - KANSAS

### IN MISSOURI

Eight bulls, 2 to 8 months, \$100 to \$175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

**S. W. COOKE & SON, MAYSVILLE, MO.**

### BUTTER BRED HOLSTEINS

Registered bull calves. Prices reasonable. Write today. These bargains will not last long.

**J. P. MAST, SCRANTON, KAN.**

### REGISTERED HOLSTEINS

For Sale—Choice young bulls, also a few females. Have bred Holsteins 35 years on the same farm. Come and see our herd.

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

### Bonnie Brae Holsteins

Ninety head of high-grade heifers and young cows. Some fresh now. Many heavy springers. Heifer calves. Registered bulls from 7 to 14 months of age.

**IRA ROMIG, STATION B, TOPEKA, KAN.**

### Golden Belt Holstein Herd

Canary Butter Boy King No. 70508 in Service.

Herd has won more prizes from Holstein-Friesian Association for yearly production than any herd in Kansas. Young bulls for sale from heavy producing cows.

**W. E. BENTLEY, MANHATTAN, KANSAS**

### FOR QUICK SALE

Fifty head of highly-bred registered Holstein-Friesian cows and heifers; good ages and good producers. Several bulls from calves up to yearlings. Ready for service.

**HIGGINBOTHAM BROS., Rossville, Kansas**

### REGISTERED HOLSTEIN BULLS AND BULL CALVES

Out of A. R. O. bulls and A. R. O. dams with A. R. O. backing for several generations.

**TREDICO FARM, R. R., Kingman, Kansas.**

### SUNFLOWER HERD

A few bred heifers and cows in calf to one of King Walker's best sons. Bull calves 8 to 6 months old.

**F. J. SEARLE, OSKALOOSA, KAN.**

### CHOICE HOLSTEIN BULLS

Four registered bulls, out of A. R. O. cows. Two ready for service. Best breeding. Choice individuals.

**BEN SCHNEIDER, NORTONVILLE, KAN.**

### CHENANGO VALLEY HOLSTEINS.

For quick sale, 100 head high-grade nicely marked cows and heifers, due to freshen in September and October; also fifty fancy marked yearlings, all tuberculin tested. Prices reasonable.

**F. J. Howard, Bouckville, Madison Co., N. Y.**

### EWING'S HOLSTEINS

Watch this space in future issues for something good in Holsteins.

**T. M. EWING, INDEPENDENCE, KANSAS**

FINE HOLSTEIN CALVES from heavy milkers, \$20 each. Registered yearling bull, \$85. Edgewood Farm, R. 3, Whitewater, Wis.

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Product of twenty years breeding. Write me for a good bull calf. Two ready to use.

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If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.

### RED POLLED CATTLE.

## RED POLLED BULLS

TWENTY 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., Kan.**

### Coburn Herd Red Polled Cattle

AND PERCHERON HORSES.

A few choice bulls. Eight extra good two-year-old stallions for sale at reasonable prices.

**MAHLON GROENMILLER, Pomona, Kan.**

### RED POLLED CATTLE

FOR SALE—1915 bull calves by Rose's Grand Champion 17998, a 2,400-pound bull; also a few good cows and heifers.

**AULD BROTHERS, FRANKFORT, KAN.**

### HEREFORD CATTLE.

## MODERN HEREFORDS HAZFORD PLACE

Robert H. Hazlett, Proprietor, EL DORADO, KANSAS

William Condell, Herdsman, EL DORADO, KANSAS

### HEREFORD CATTLE

For Sale—One carload breeding cows, one carload heifer calves, 75 yearling bulls, 25 two-year-old bulls. Come and see our herd.

**PERRY BROS.**

**Alta Vista, Wabaunsee County, Kansas.**

## STAR BREEDING FARM

FOR SALE—Herefords and Durocs: 65 yearling and two-year-old bulls by Tophon 4th, Hessiod, Anxiety, March On and other good sires; 25 females, some have calves at foot and bred again. 10 head heifer calves. 30 head of registered Duroc gilts sired by a son of Ohio Chief and son of Buddy K 4th, out of sows by grand champions. Come and see me.

**SAM DRYBREAD - ELK CITY, KANSAS**

REGISTERED HEREFORDS—Fourteen head, mostly females; choicest breeding; pasture condition. **A. T. JORDAN, La Farge, Wis.**

### POLLED DURHAM CATTLE.

POLLED DURHAMS AND SHORTHORNS By Scottish Baron.

Young bulls of serviceable age, including Sultan's Kind, a choice young bull, son of True Sultan. A few young cows and heifers bred to Select Goods and Sultan's Kind for sale. **JOSEPH BAXTER, Clay Center, Kan.**

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## CAPITAL VIEW HERD

200—Galloway Cows and Heifers—200 All of the same blood lines as my show cattle. Priced within the reach of farmers or ranchmen.

**G. E. Clark, 205 W. 21st St., Topeka, Kansas**

### GALLOWAY BULLS

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

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**SHORTHORN CATTLE.****CEDAR LAWN SHORTHORNS**

For Sale—A number of choice bull calves from 8 to 16 months old, by Secret's Sultan 363833 by Missie's Sultan by Glenbrook Sultan by Whitehall Sultan and out of West-lawn Secret 2d, weight 2,200 in breeding condition. Description guaranteed.  
S. B. AMCOATS - CLAY CENTER, KAN.

**Tenneholm Shorthorns**

Collynie Hampton 353998 in Service.  
FOR SALE NOW: Eight good bulls from 7 to 17 months old; four Scotch, four Scotch topped Bates. Some of them high-class herd headers. A few bred cows and heifers for sale also. Our prices are not high. Farm one mile from town.  
E. S. MYERS - CHANUTE, KANSAS

**Shorthorns at Farmers' Prices**

I have rented my farm and will sell my entire herd of Shorthorn cattle at private sale, consisting of 30 head of cows and heifers, 10 heifer calves, and 10 young bulls from 8 to 14 months old. All clear reds and will sell at farmers' prices.  
JOHN O. HUNT, Marysville, Kan.

**PEARL HERD SHORTHORNS**

Valiant 346162 and Marengo's Pearl 391-962 in service. Twenty head of young bulls for sale, ranging in age from 10 to 20 months. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.  
C. W. TAYLOR, Abilene, Kans.

**ALFALFA LEAF SHORTHORNS**

Young bulls for sale, from 8 to 14 months old. Also some females, bred or open, with breeding and quality.  
John Regier, Whitewater, Butler Co., Kan.

**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

**Scotch Topped Shorthorn Bulls**

For Sale—Scotch-topped Shorthorn bulls from 10 months to 30 months of age, by a pure Scotch son of Bampton Knight and out of dams from Tomson Bros. herd.  
SULLIVAN BROS. - MORAN, KANSAS

**Cloverdale Shorthorns**

Two very choice yearling bulls, big-boned and beefy; few nice heifers also. Priced \$100 to \$125.  
JEWELL BROS., HUMBOLDT, KANSAS.

**Shorthorns** 20 bulls and heifers sired by Duchess Searchlight 348529, a 2,500-pound bull, and from cows weighing 1,400 to 1,600 pounds. Good milkers. Come or write.  
A. M. MARKLEY & SON, MOUND CITY, KANSAS

**SHROPSHIRE SHEEP****SHROPSHIRE EWES**

Bred to the very best bucks obtainable, for sale in lots to suit purchaser. All stock recorded.

**L. M. HARTLEY**  
FINE RIDGE FARM - SALEM, IOWA

**BRED EWES.**  
Registered Shropshires to lamb March and April. Bred to son of imported Ludlow King, sire of state fair champions. Also rams, eighty miles north St. Joseph, Mo.  
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M. E. Gideon, Emmett, Kan.

**SHORTHORNS.**  
E. E. Hancock & Sons, Hartford, Kan.  
C. H. White, Burlington, Kan.

**HOLSTEINS.**  
C. E. Bean, Garnett, Kansas.

**SHELTON PONIES.**  
N. E. Stucker, Ottawa, Kan.

**JERSEY CATTLE.**  
J. B. Porter & Son, Mayetta, Kan.

**DORSET-HORN SHEEP.**  
H. C. LaTourrette, Route 2, Oberlin, Kan.

**POLAND CHINA HOGS.**  
Wm. M. Dixon, New Florence, Mo.

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G. C. Wheeler, Live Stock Editor  
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**CLAIM SALE DATES.**

**Percheron Horses.**  
Jan. 17—Lee Bros., Harveyville, Kan. Sale at Manhattan.  
Jan. 21—L. R. Wiley, Sr., Elmdale, Kan.

**Percherons and Other Draft Breeds.**  
Jan. 25, 26, 27, 28, 1916—Breeders' sale, Bloomington, Ill. C. W. Hurt, Mgr., Arrowsmith, Ill.

**Jacks and Jennets.**  
March 7 and 8—L. M. Monsees & Son, Smith-ton, Mo.

**Shorthorns.**  
Jan. 20—R. Roenigk, Morganville, Kan. Sale at Clay Center.  
April 5 and 6, 1916—Central Shorthorn Sale, Independence, Mo.

**Holsteins.**  
Jan. 10—Henry C. Glissmann, South Omaha, Neb.  
Jan. 25—Nebraska Holstein Breeders' Sale Co., sale at South Omaha. E. M. Little, Clarks, Neb., Manager.  
Jan. 27—E. S. Engle & Son, Abilene, Kan.

**Durocs.**  
Jan. 26—R. P. Wells, Formoso, Kan.  
Feb. 8—J. A. Porterfield, Jamesport, Mo.  
Feb. 15—Kansas State Agricultural College, Manhattan, Kan.  
Feb. 16—Thompson Bros., Garrison, Kan.

**Poland Chinas.**  
Jan. 20—O. H. Fitzsimmons, White City, Kan.

Jan. 22—L. R. Wiley, Sr., Elmdale, Kan.  
Feb. 2—Will G. Lockridge, Fayette, Mo.  
Feb. 4, 1916—J. A. Godman, Devon, Kan.  
Feb. 5—Fred B. Caldwell, Howard, Kan.  
Feb. 8—L. V. O'Keefe, Stillwell, Kan.  
Feb. 9—H. L. Faulkner, Jamesport, Mo.

**Spotted Poland Chinas.**  
Feb. 15, 1916—Herman Groninger & Sons, Bendena, Kan.

Feb. 15—Kansas State Agricultural College, Manhattan, Kan.

Feb. 17—W. Z. Baker, Rich Hill, Mo.  
Feb. 17—H. C. Graner, Lancaster, Kan.  
Feb. 18—H. B. Walter, Effingham, Kan.  
Feb. 19—Belcher and Bennett Bros., Lee's Summit, Mo.

Feb. 19—Olivier & Sons, Danville, Kan.  
Feb. 23—U. S. Byrne, Saxton, Mo. Sale at St. Joseph Stock Yards.

Feb. 23—F. E. Moore & Son, Gardner, Kan.  
Feb. 25, 1916—A. J. Erhart & Sons, Ness City, Kan. Sale at Hutchinson.

March 1—Clarence Dean, Weston Mo. Sale at Dearborn, Mo.

**O. I. C. and Chester Whites.**  
Feb. 2—J. H. Harvey and F. B. Goodspeed & Son, Maryville, Mo.

**Hereford Cattle.**  
March 4—Northwest Missouri Hereford Breeders' Association. Sale at South St. Joseph, Mo. Jesse Engle, Sheridan, Mo., Secretary.

M. E. Gideon, of Emmett, Kan., one of the progressive Kansas farmers that is making a success with pure-bred stock, writes that his herds of Percheron horses, Hereford cattle and Duroc hogs are doing well. Mr. Gideon's sales of breeding stock this year have been very satisfactory. A feature of the young stock on his farm at this time is the choice young Percherons, including a coming three-year-old stallion that is a herd header.

Lee Bros., of Harveyville, Kan., announce their annual Percheron sale at Manhattan, Kan., of their imported and American-bred stallions. This year they will sell forty head—thirty mares and ten young stallions. Twenty mares will be either bred to the great herd stallion, Scipion, or sired by him. They will also sell ten choice stallions, including their show herd, except Scipion. This will be one of the sale events of the season.

The sale of Percheron and Belgian horses to be held by L. R. Wiley, Sr., Emporia, Kan., January 21, promises to be one of the sale events of the season. Mr. Wiley has cataloged a choice offering of Percheron and Belgian stallions and mares for this sale. The offering will include two imported stallions weighing over a ton each, fifteen young stallions and thirty-five mares and fillies. Twenty-five of the mares will be safe in foal.

H. A. Ritter, of Kiowa, Kan., is a live booster for better horses on Kansas farms. His Percherons are rated among the good ones of this state. He writes that he has two of the good registered Percheron stallions as there is in the state; he also has a span of extra large, smooth, registered mares.

P. L. Ware & Son, of Paola, Kan., who are among the successful breeders of pure-bred Poland China hogs, report their herd doing well. The present head of their herd is the great breeding boar Miami Chief by Gold Mine. This boar is one of the good sires now in service. At this time they have an outstanding herd of sows, also a choice lot of spring boars and gilts, and are breeding a large number of gilts for spring farrow.

A. E. Sisco, of Topeka, owner of one of the richly bred Duroc herds in this state, reports his herd doing extra well. Mr. Sisco has succeeded in building up a herd of big, early maturing Durocs, with show ring quality. His show herd was one of the attractions in the swine department at Topeka State Fair this year. He makes a specialty of developing hogs for breeding stock, and a feature of his herd at this time is a large number of big, growthy, high quality boars and gilts. Mr. Sisco is breeding a fine lot of gilts to one of the best sons of the great boar, A. Critic, for spring farrow.

Hereford breeders throughout the corn belt will be interested in the sale announcement of the Northwest Missouri Hereford Breeders' Association. On March 4, 1916, the association will sell a choice draft of Hereford cattle at South St. Joseph, Mo. The offering will be selected from the best herds in Northwest Missouri. Jesse Engle, of Sheridan, Mo., is sales manager, and H. D. Cornish, of Osborne, Mo., is secretary of the association. The offering that will go in this sale will be carefully selected and will be one of the best ever sold in North Missouri.

W. E. Bentley, of Manhattan, Kan., owner of Golden Belt herd of Holsteins, reports that his herd is making a good record again this year. This herd has won more prizes from the Holstein-Friesian Association for yearly production than any other herd in this state. Canary Butter Boy King 70508, in service in this herd, is one of the good sires of the breed. His first six daughters to freshen averaged 17½ pounds butter in seven days. The young bulls in the herd at present from heavy producing dams are a very choice lot of youngsters.

E. S. Myers, of Chanute, Kan., owner of the noted Tenneholm herd of Shorthorns, writes that his herd has done well this year. Mr. Myers is contributing largely to the cause of live stock improvement in Kansas, and in addition to his choice herd of Shorthorn cattle, he has a very fine flock of Shropshire sheep. He is ably seconded in his efforts by Mrs. Myers, who has one of the choice flocks of pure-bred Langshan chickens in this state. Collynie Hampton 353998 is in service in this herd, and is one of the good sires of the Shorthorn breed. The cows of Tenneholm herd are a richly bred choice lot of individuals, and the very fine lot of young stock now in the herd include a number of choice Scotch and Scotch Topped bulls. Some of them are outstanding herd headers. Mr. Myers has the type of beef cattle that are profitable, and his herd is drawn upon heavily for breeding stock.

Poland China breeders in a number of states will be pleased to learn that U. S. Byrne, of Saxton, Mo., has decided to hold his annual bred sow sale February 23. Mr. Byrne is one of the pioneer breeders of pure-bred Poland Chinas, and it is conceded that he owns, at the present time, one of the best herds in existence. For his coming sale, he expects to catalog ten choice tried sows and thirty-five fall yearlings. The fall yearlings that will go in this offering were sired by the great boar B Wonder, one of the greatest Poland China sires now in service. They will be bred to Long Jumbo 2d, also an outstanding Poland China sire. The entire offering will be a very useful lot of sows; they are of the type that will make good for any farmer or breeder.

L. R. Wiley, Sr., of Elmdale, Kan., has cataloged forty head of choice big type Poland China fall yearlings for his bred sow sale to be held at Emporia, Kan., January 22, the day following his sale of Percheron and Belgian horses. A part of the offering was sired by Missouri Governor by King Ex 3d, and others by a good son of Kansas Hadley by Big Hadley. They are bred to Big Superba by Superba, grand champion Poland China boar at the Panama-Pacific Exposition.

H. B. Walter, of Effingham, Kan., who owns one of the noted herds of big, smooth Polands, has changed the date of his annual bred sow sale from February 17 to February 18. Mr. Walter has bred seventy head of choice sows, a large per cent of them to his great herd boar, Big Bob Wonder. This boar is conceded by Poland China judges to be one of the great individuals of the breed as well as one of the great breeders. The spring gilts in Mr. Walter's herd are a very fine lot, some of them weighing 320 pounds in good growing condition. Mr. Walter is one of the pioneer Poland China breeders in Kansas, and has always been a consistent worker in the interest of improved stock on every farm. He has succeeded in building up a big type herd that has attracted the attention of breeders throughout the corn belt.

Richard Roenigk, of Morganville, Kan., reports that the Shorthorn cattle that will go in his sale to be held at Clay Center, Kan., January 20, are doing fine. Mr. Roenigk has cataloged an offering of very useful Shorthorns for this sale. The breeding of his offering is of the best, and they are the ideal beef type that will make good on any farm, and it is to be hoped that Kansas Farmers and breeders will take this offering. Kansas needs more beef cattle of this type.

At the recent annual meeting of the American Shorthorn Breeders' Association, held in Chicago, an increase of \$17,000 to \$102,000 in the surplus of the American Shorthorn Breeders' Association was reported by Secretary Harding. The following directors were elected: John R. Tomson, Dover, Kan.; Harry O. Weaver, Wapello, Iowa; Benjamin C. Allen, Colorado Springs, Colo.; F. E. Jackson, Huxley, S. D. (succeeding themselves) A. B. Paterson, Meridian, Miss., and Walter S. Pratt, Brattleboro, Vt. (succeeding Governor Stewart, of Virginia, and C. A. Otis, of Pennsylvania, respectively). At the meeting of the directors, held after the election, President Reid Carpenter and Treasurer C. D. Bellows were re-elected.

Clarence Dean, of Weston, Mo., is one of the live workers in that state for improved live stock on every farm. Mr. Dean owns a splendid stock farm near Dearborn, on the electric line from Kansas City, Mo., and owns splendid herds of pure-bred Poland China hogs and Hereford cattle. His announcement that he will sell a carefully selected draft of Poland China bred sows at Dearborn, Mo., on March 1, will be of interest to Poland China breeders throughout the corn belt. As the result of years of breeding along scientific lines, he has succeeded in building up a type of Poland Chinas that has attracted the attention of farmers and breeders in a number of states, and his herd is drawn upon heavily for breeding stock. His large herd of Poland China sows is noted for extra large size and high quality. Among the famous sows in his herd are Lady Mastodon Price, a sow that farrowed 68 pigs in five litters and has raised from nine to eleven pigs each time. Lady Mastodon 67, with a record of 34 pigs in three litters. This sow is by Columbia Wonder and out of Lady Mastodon 6th. She carries the blood of Lady Wonder 5th, Orange B, Surprise Wonder and Chief Price. A number of the sows that will go in this sale are of A Wonder breeding, and will be bred to a son of Black Big Bone, a boar that weighed 1,000 pounds; others will be bred to Big Bone Model by Long Big Bone.

J. C. Robison, of Towanda, reports his Holstein herd doing well. He now has 260 cows and heifers in his herd; they are all bred to pure-bred bulls of the best breeding. He also reports a good demand for high-class Holsteins at satisfactory prices.

**POLAND CHINAS.****Palmer's Poland Chinas**

Herd headed by Sir Dudley, first in senior pig class, junior and reserve grand champion Kansas State Fair, Hutchinson. Pigs, either sex, by this boar; also sows and gilts bred to him. For prices and description write  
CHAS. B. PALMER, Route 5, Marion, Kan.

**PERFECTION SPOTTED POLANDS**

Special prices on summer boars—the old original spotted kind. Booking orders for fall pigs and gilts bred for spring farrow. Get our prices and free circular before buying elsewhere.  
The Ennis Stock Farm, Horine Station, Mo. (Just South of St. Louis.)

**Henry's Big-Type Polands**

March gilts, sired by Big Bob Wonder, Big Bone Jr., and Grand Orange. Bred or open. Also fall pigs, not related. Write me.  
JOHN D. HENRY - LECOMPTON, KAN.

**ENOS IMMUNED POLANDS.**

Fall and spring boars sired by the noted herd boars, Orphan, Chief and Mastodon King. Will sell a choice lot of my herd sows and gilts bred for early spring farrow. One hundred head to pick from. Everything guaranteed immune. Write or phone.  
A. R. ENOS - RAMONA, KANSAS

**PINE GROVE POLAND HERD**

Choice big-type spring boars and gilts, a few fall gilts, by Sunflower King by King of Kansas and Major by Designer by Expansion. Tops, \$25; a few for \$20. Also a few spring gilts.  
N. E. COPELAND, WATERVILLE, KANSAS

**LONE CEDAR POLANDS**

Cholera immune. Up-to-date large-type breeding. Some good March and April boars and gilts. Also a few good September pigs at bargain prices.  
A. A. MEYER - McLOUTH, KAN.

**FAIRVIEW POLAND CHINAS**

FOR SALE—A few good heavy-boned boars. Also splendid lot of fall yearling and spring gilts, bred for March and April litters. All priced to sell.  
P. L. WARE & SON - PAOLA, KANSAS

**POLAND CHINA BOARS AND GILTS**

A few serviceable boars and bred gilts for sale. Send for my bred sow sale catalog. Sale will be held March 1 at Dearborn, Mo., on electric line out of St. Joseph. Write  
CLARENCE DEAN, R. D., WESTON, MO.

**SCHNEIDER'S BIG-TYPE POLANDS.**  
Extra good boars, serviceable age, sired by Referendum 2d out of choice dams. Priced to sell. Joe Schneider, Nortonville, Kan.

**OLD ORIGINAL SPOTTED POLANDS.**  
Spring boars, fall pigs, bred sows. Bargains.  
A. S. Alexander, Route 2, Burlington, Kan.

**BERKSHIRE HOGS.**

**BIG-TYPE BERKSHIRES FOR SALE**  
Sired by grand champion boars of Illinois and Missouri State Fairs. Also S. C. Black Minorca chickens.  
J. V. FISH, Route 7, Bolivar, Mo.

**JERSEY CATTLE.****OLIVER'S JERSEYS.**

For Sale—Jersey bull dropped Nov. 15, 1914. Solid gray fawn, shading darker on sides and neck. Sire, Blue Belle's Owl 79641; dam, Fauvic's Wild Rose 253822, imported, ten months record milk 6,845.1 lbs.; fat, 328.44 lbs., on every-day care and dairy feed. This is a magnificent bull, guaranteed to please. Price, \$100. Address  
ROLLA OLIVER, Box 701, St. Joseph, Mo.

**SMITH'S JERSEYS**  
**BLUE BOY BARON 99918**  
Five years old, solid light fawn, blue ribbon winner. Must change. Keeping his heifers. His sire, half brother to Noble of Oaklands, sold for \$15,000. His first five dams on his dam's side made 102 lbs. butter in seven days. Also four of his sons, serviceable age, and a few females. Will sell very cheap.  
S. S. SMITH, CLAY CENTER, KANSAS.

**LINSCOTT JERSEYS.**  
First Register of Merit herd in Kansas—Established 1878.  
Oakland Sultan, first Register of Merit sire in Kansas, is dead. Last chance to get one of his daughters. \$100.  
E. J. LINSKOTT - HOLTON, KANSAS.

**CHAMPION BLOOD**

Young bulls by Cretesla's Interested Owl 114512, whose sister has broken the Jersey milk record, giving 19,744 pounds of milk. These bulls are out of very good cows. Write or call on R. A. GILLILAND, Mayetta, Kan.

**REGISTERED JERSEY HEIFERS.**

They are bargains and will soon go at prices asked; 2 to 5 months old. Write today. Parkdale Farm, Vandallia, Mo.

**ANGUS CATTLE****CHOICE ANGUS BULLS**

Eight registered Angus bulls, yearlings and calves, choice individuals, best breeding. Also a few choice cows. Prices reasonable. On Santa Fe, 18 miles south of Topeka.  
GEO. A. DIETRICH, CARBONDALE, KAN.

**ABERDEEN ANGUS**

We Offer For Sale Bulls and Heifers, Any Number, Single or Carload Lots.  
These cattle have size and quality and are bred in the purple. See them at Lawrence, forty miles from Kansas City, on Santa Fe and Union Pacific railways.

**SUTTON & PORTEOUS**

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