

# KANSAS FARMER

For the improvement of the Farm and Home

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## INCREASE MEAT PRODUCTION

*Diversified Farming is a Winner and the World is Waiting to Buy Your Product*

IT WOULD be a national calamity to have any further reduction take place in our meat-producing animals. The whole world is hungry for meat, and the meat-producing animals are absolutely essential in converting into human food large quantities of low grade feed material. Bread is called the staff of life, but to be deprived of meat is a serious handicap in the proper nourishment of mankind. Our most virile races have ever been consumers of meat and meat products.

Because of various conditions in recent months, prices have been unusually high, but, as Prof. W. A. Cochel recently pointed out, war conditions have influenced the price of meat and meat products less than any other foodstuffs which come to our tables. Producers are wondering whether these high prices are to continue for any considerable period. In discussing the food situation as related to meat production, before the food conference, Professor Cochel pointed out that in spite of the high prices prevailing, a large proportion of our people, due to profitable employment, are able to pay the price.

This has undoubtedly worked a hardship upon those whose incomes have not increased proportionately with the advance in food costs. We can look for little or no decrease in prices so long as industrial conditions remain in their present healthy condition. Statistics show that the number of animals slaughtered during the past twelve months has been greater than in the corresponding period three years ago and the domestic supply has been augmented by an almost total absence of export business. Hence the price is not due to smaller supplies but to greater demand.

"Although these facts are self-evident," said Professor Cochel, "yet our production is decidedly less than conditions warrant. Among the many causes leading to the present condition are the continual agitations against the so-called 'meat trusts' and 'packer combines,' recommendations of 'doctors' who are unable to diagnose symptoms, that their 'patients' discontinue the use of meats, violent fluctuations in the market price of meat-making animals, and the decrease in surplus of grain and forage usually used in the preparation of animals for market. All of these factors have caused the farmer to decrease meat-making operations for fear they would be unprofitable."

Professor Cochel pointed out that the production of pork, mutton and beef is limited by the production of grain, roughage and pastures. While it is generally assumed that live stock is essential to the maintenance of soil fertility, little emphasis has been placed on the fact that good farming, resulting in large yields of crops, is essential to the economic and extensive production of meat.

Methods may be materially improved by the use of more efficient animals. The rapid increase in the use of pure-bred sires indicates that this advantage is being made use of by farmers and ranchmen. Better methods of management are recommended which will permit each animal to make an increase in weight every day of its life instead of frequently failing to gain or actually losing weight during the winter or in seasons when protracted drought has caused pastures to fail.

Theorists have recommended that the beef supply could be materially increased by the prevention of the slaughter of young animals. Students who have taken into consideration all of the influences of age on cost and amount of production, agree that a greater supply of beef could be secured more readily from the available feed supplies by increasing the number of breeding females and finishing the product at from fifteen to twenty months of age rather than by permitting steers to obtain an age of from thirty-six to forty-eight months before being marketed.

A further increase in the meat supply could be secured by utilizing more fully the by-products of grain farming, such as corn stalks and straw, rather than allowing them to go to waste, or by burning, as is frequently practiced in the corn and wheat belts of the country.

Professor Cochel further called attention to the fact that animal diseases greatly reduce the available supply of meat-producing animals. The ravages of hog cholera, blackleg in calves, and stomach worms in lambs, are stupendous. Fortunately, recent investigations by experiment stations have enabled the farmer who is willing to make use of scientific knowledge to control these diseases. It is not generally realized that

contagious abortion is responsible for an annual decrease of approximately 10 per cent in the calf crop in Kansas and adjoining states. There are no preventive or curative measures as yet discovered by which this disease can be controlled. Other minor ailments further decrease the number of animals available for slaughter which proper sanitary measures would prevent.

Increased meat production is coming as a result of improvements in methods of breeding, feeding and managing our meat-making animals.

"The greatest future increase," said Professor Cochel, "will follow an improvement in the pastures, an increase in feed supplies, such as corn, kafir, silage, alfalfa, and other roughages, the utilization of the by-products of grain production, and the use of more efficient animals."

"The greatest possible incentive to increase in live stock production being applied, that is, a reassurance of financial profit to the farmer who has invested his capital in live stock to convert his farm-grown feeds into meat."

"Better stick to the old cow—she will pull you through," says J. C. Hopper, of Ness County. Mr. Hopper is a firm believer in diversified farming and live stock production for the western part of our state. In a recent letter he states that the continued lack of rain is a reminder to those who live west of the ninety-eighth meridian that it has not forgotten to get dry. Not since wheat was sown last fall has there been sufficient moisture to bring it in sight in many sections of the so-called wheat belt. Just when many were getting ready to turn their backs on the cow, something happens to remind us of her importance in food production.

The cow will thrive and fatten on the short buffalo grass, even when it is dry enough to burn. She will eat almost any kind of rough feed and only asks that there be plenty of it. Common cane or the new-fangled white and black varieties all look alike to her and she does not object to such drouth-resisting crops as Sudan, or if nothing else offers will consume the lamb's quarter, which grows rain or shine, or the Russian thistles if they are properly stored for her use.

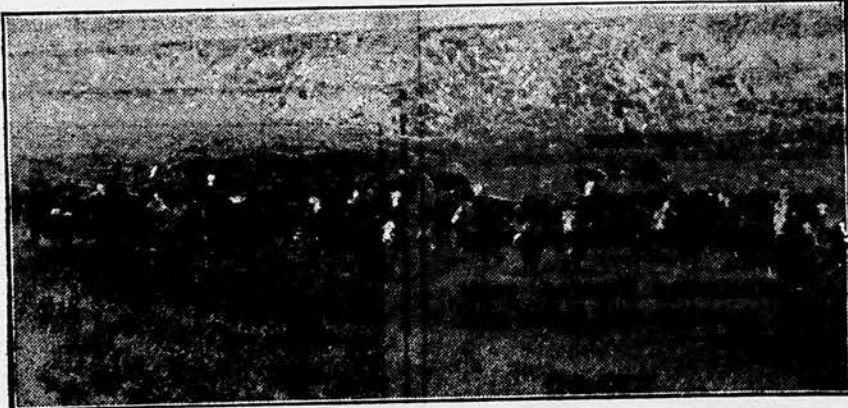
"Quality in cattle is becoming more evident on our western farms. We have passed up the longhorn and the streaked and striped. Jacob would have a poor chance with his father-in-law on the plains of Western Kansas. Here you will find the cattle becoming more and more uniform in appearance. Good blood counts and no people know it so well as those who live in the West. Good blood is developing on the plains that the states of Ohio, Indiana, Illinois and Kentucky thought could only be found within their borders. Western breeders are even getting into line to produce herd headers. The theory that large-boned, well-developed cattle can only be grown in the East is being exploded. A well balanced ration which can be supplied together with the open range is enabling us to produce beef at a much less cost than that for which it can be produced in the East."

"A remarkable change has taken place in the cattle business in Western Kansas during the past dozen years. There was a time when cattlemen who were not handling registered herds cared little whether their males were pure-bred or mongrels. The herds contained grades of all colors, types and sizes. Now we find the herds uniform in appearance and all of the same color and breed and headed with registered males. This is working a wonderful reformation in the beef-making business in this section."

"There has never been a period when the cattle business was more promising than it is at the present time. The cow is absolutely essential, both on the farm and on the ranch. It will take years to catch up with the world's shortage of meat. Young men seeking opportunities cannot do better than to take up the business of growing cattle."

"The plains of Western Kansas contain much undeveloped land that is waiting for young men with energy and pluck and a determination to win. There are great opportunities for those who will work out systems of diversified farming which will include the handling of cattle as an important feature of the business. This type of farming is sure to win and the world is waiting to buy your product."

The cut on this page illustrates a scene on Mr. Hopper's ranch in Ness County.



BREEDING COWS ON J. C. HOPPER'S RANCH, NESS COUNTY.—GREAT OPPORTUNITIES FOR CATTLE PRODUCTION IN LAND OF THE GRAIN SORGHUMS



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# FARM POWER

## Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

IT IS entirely possible that the winning of the great war may yet hinge upon the ability of the American farmer to greatly increase crop production. We must not only feed our own people at home, but our non-productive armies in the field and at the same time provide an enormous surplus to sustain our allies.

In this emergency the farm tractor comes like a godsend to the nation. The successful development of the tractor seems to have been providentially timed to meet the crying need for more help and more power on the farm. The American tractor may yet win this war—not alone as armored tanks crawling across shell craters, cutting through barbed wire entanglements and dealing deadly broadsides at the enemy, but here on our American farms turning two or three furrows where only one was turned before, cultivating two acres where only one was cultivated before, and harvesting the yield of the fields on time and with a great saving of hand labor.

We should recognize the possibilities and efficiency of the improved tractors of today. Don't make the mistake of disparaging all tractors because some have failed to do what was expected of them—don't judge the light, one-man, all-purpose tractors of today with the clumsy, heavy, pioneer machines that were adapted only to long stretches of level acres in the northwest grain belt.

The tractor of today is a proven success on thousands of farms. There is not alone one type, but several—all of which have their advantages—all of which do good work and some one of which is exactly suited to your needs. For example, if you work a farm of only eighty acres you will find a type that will do all your farm work without horses. A tractor that is light, easy to handle, economical to operate, and low in first cost.

Write for different tractor catalogs. Study the maker's claims for each. Note the advantages each would have when applied to your own farm problems. But our recommendation to every farmer is to investigate farm tractors—now. War or no war—power farming is here to stay and the most successful farmer of the future will be the one who like the successful manufacturer installs the latest and most efficient machinery. And the most vital of all machines in these days of scarcity of hired help is the farm tractor.

### The Spark Plug of Today

"Good ignition is a source of much satisfaction to the owner of a motor car," observes Chester S. Ricker, M. E., in the May number of American Motorist. "I often feel that good ignition is less appreciated by the average car user of late years than it is by the pioneer motorist. When you stop to consider the many miles that you have run without replacing a broken spark plug or even cleaning the plugs in use, you first

begin to realize how reliable the little things have become.

"I can well remember how in the early days of my automobile experience I always carried a whole set of spark plugs along, and never thought aught of it if I had to change a couple of plugs in a fifty-mile run. We always carried extra porcelain in those days, and few were the motorists who could not take a plug apart and replace the broken part. . . . At that time it was a question whether jump spark with battery ignition or make-and-break ignition was the most desirable.

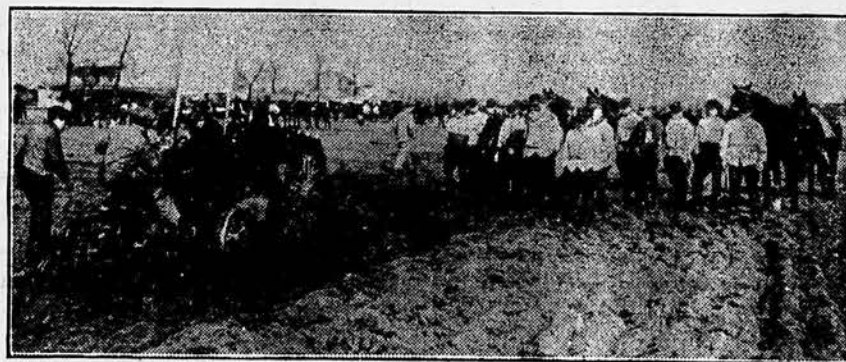
"Ten years have rolled around since then, and today the jump spark is universal. This was only brought about by the development of the spark plug which was reliable. Nowadays almost any plug will give better results than the most expensive ones did in the past. Furthermore, the plug of today costs only about one-quarter as much as did those of yesterday. Today you can purchase a good plug at prices ranging from 75 cents to \$1.25. Some of the best plugs, however, run into much more money, and a charge of \$5 for a high-grade plug, such as is used in aeroplane and racing motors, is not considered exorbitant."

### Essentials of Tractor

There are so many tractors now on the market that the would-be purchaser is often puzzled in selecting the proper outfit to suit his conditions. There are many requirements necessary to meet all the conditions of power farming, but it is pointed out in a recent issue of Gas Engine that a successful tractor engine must have certain qualifications regardless of its type.

"It must be so constructed that it can develop its maximum horsepower without self destruction. The element of limited overload must be eliminated because it cannot be controlled. It must travel and operate without undue loss of time and must do a season's work with ordinary care and without the services of an expert. It must develop its rate of power economically and operate successfully with the kinds of fuel common in the locality where it is used."

"The Modern Gas Tractor" is the title of a new book prepared by Victor W. Page, who is also author of "The Modern Gasoline Automobile." It describes all types and sizes of gasoline, kerosene and oil tractors. Design and construction are treated exhaustively and complete instructions are furnished for the care, operation and repair of tractors, as well as practical suggestions regarding their use on the road and in the field. It is the latest work out on farm tractors and tractor power plants and is a most valuable book for the tractor owner. It is published by the Norman W. Henley Company, New York, and sells for two dollars.



TRACTOR AT WORK IN FRANCE.—SHORTAGE OF HORSES MAKES USE OF THIS KIND OF POWER INCREASINGLY NECESSARY



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# KANSAS FARMER

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### HELP, NOT ADVICE, NEEDED

We do not wonder that farmers are becoming somewhat annoyed at the continual bombardment of advice coming from every quarter. It is refreshing in wading through the mass of material sent out by corporations and business concerns of various kinds to find occasionally a concern that has a writer who realizes the farmer's position and knows how fully he is shouldering his burdens in helping the nation to win victory in the great war. We refer to a circular from the American Steel and Wire Company, which reads as follows:

"The subject of most importance this week is the attitude of the farmer. What is he going to do? One thing is sure, he is going to do as much as any other man, as his record from Lexington to Santiago has shown.

"The farmer stands on the threshold of his new year, and it is a momentous year for him, and his success. All eyes are on him and he is receiving advice from every line of life. If you have had a lot to do with waking him, you say he is awake; if not, you say he is not awake.

"The farmer is just a human being; he is contemplating affairs as others do—perhaps with little more intelligence—and he is going to solve his problems from personal consideration just as others do, despite loud talk to the contrary. Don't apply special rules to understand his motives.

"An analysis of the farmer mind at the moment will be helpful to all. He must be amused at the sudden deep solicitation of the banker for his welfare, for he remembers the interest and renewal commissions he has paid this man.

"Looking backward he sees 1893 when he sold his corn for 16 cents or burned it in the kitchen stove. The hogs went for a pittance.

"Rightly or wrongly he suspects, or believes, he has no part in naming the prices for his produce. Speakers and newspaper headline writers have made him believe the 'board of trade' has priced his grain, the 'packers' priced his live stock, and the 'Elgin board' his butter fat, the free-lance speculator his eggs. He cannot forget when he sent that carload of apples to Market Street expecting a good return, and in place of which he received the polite request to send his check to cover expenses. He has never been able to see why his potatoes must remain on the ground, unsold, when the Chicago man, a hundred miles away, can't afford to use them on account of high price.

"Suspicious by nature, he is doubly suspicious of the hue and cry, from every side, that he grow crops to the limit of his financial ability; breed all the brood animals on the place, etc. Isn't he doing as much as the other fellow?

"Manufacturing and merchandising are always paralyzed by uncertainty, the currents in the channels of commerce at this very moment are slowing down on account of price uncertainty. The farmer isn't a fool, what of his prices? Business has the machinery to stabilize and will soon run on as usual. Provide the machinery to stabilize the prices of the 1917 farm crops and the farmer will take care of the rest.

"Give the farmer a chance to brace himself and you can lean on him, and 'business as usual' may once more be the order of the day. You won't have to worry about enough to eat for our people and allies.

"For years he has had preached to him, by government and state official, 'Don't follow Europe in securing large

yields per acre. Remember prices are best obtained by holding down production.'

"Let the federal government establish prices of crop and live stock, help the farmer to credit and labor, and the farmer will do the rest."

### MILK AS FOOD

The dairy cow takes high rank as an economical producer of food. It would be a national calamity to have the dairy cows reduced in number at the present time. People generally do not sufficiently recognize the value of milk as food. This fact is at the bottom of the problem now facing the producers of milk for city trade. At the auxiliary meeting of the Kansas State Dairy Association held in Topeka last Saturday the present cost of milk production in relation to the price received was discussed more than any other topic presented. Feed has been unusually high. One speaker stated that the increase in feed prices during the past year ranged from 100 to 300 per cent and that the cost of labor had increased 50 per cent, while the price of milk had advanced only 10 per cent.

We sometimes wonder if people realize how small a quantity of milk enters into the diet of the average person. The estimate for the whole country is a little more than a half pint daily. On farms where milk is produced a larger proportion is probably used, but even here it would be economy to increase the use of this food which supplies the food nutrients so cheaply.

Milk contains all the body-building materials and also nutrients which supply energy. In protein, which is the muscle-building material of a food, a quart of milk contains as much as seven ounces of sirloin steak, 4.3 eggs, or 8.6 ounces of fowl. In total energy a quart of milk supplies as much as eleven ounces of sirloin steak, eight and one-half eggs or 10.7 ounces of fowl. One of our foremost American authorities on nutrition says: "Do not buy meat until you have bought three quarts of milk a day." This applies to a family of two adults and three children.

Producers of milk might well consider the plan of co-operatively advertising the food value of milk. In some of the larger cities the National Dairy Council has most successfully conducted such advertising campaigns. Foods of all kinds are extremely high in price and many families could reduce living expenses by

increasing the use of milk and other dairy products. Milk at ten cents a quart furnishes protein as cheaply as sirloin steak at 23.3 cents a pound or eggs at 25 cents a dozen.

In addition to their economy, dairy products have additional advantages. There is no waste connected with their use. They contain valuable mineral salts and other invaluable food substances.

While this sort of information is of the greatest value to people who purchase milk, there are probably many on the farms who could make greater use of dairy products and reduce household expenses.

### ENROLLING TRACTOR OPERATORS

The war is creating an increased demand for men who can operate tractors. One of the advantages of a tractor is that it does not get tired and can be kept at almost continuous work if the men are available to operate it. Dean A. A. Potter of the engineering division of the agricultural college told us recently that his division was getting in touch with every young man who had received training in the handling of traction engines and power farming machinery at the college, the object being to make it possible to use all the tractors of Kansas to their full capacity if possible.

We would suggest that any man who has any training in the handling of gasoline engines, report to Dean A. A. Potter, Manhattan, Kansas. Men who have had experience in handling and repairing automobiles and automobile engines can easily learn to operate the gasoline or oil tractors. The demand for this kind of help will be greatest when the work of preparing the soil for next year's wheat crop begins.

According to a recent report the apportionment of steel to manufacturers of farm implements the coming year by the National Council of Defense is to be about one-half the amount used last year. This would suggest the possibility of a shortage in farm equipment. It can be overcome by the co-operative use of machinery for as many hours of the day as is possible, and the immediate repair of all old machinery. Some large implement companies are making definite plans to put on a repair service that will make it possible to extend the usefulness of discarded machinery.

### CATTLEMEN MEET AT MANHATTAN

The annual cattlemen's meeting held at the agricultural college, Manhattan, is one of the most important meetings of the year. The purpose of this meeting is to give the cattlemen of the state a chance to inspect the work of the experiment station and especially the results of the cattle feeding experiments that are carried on during the winter season. These tests close on the date set for the meeting. This year's meeting will be held Friday, June 1. The stockmen of the state greatly appreciate this opportunity to study at first hand the work of the experiment station. Hundreds of men from all over the state gather at the college for this meeting. Last year some of those in attendance drove automobiles from as far west as Ellis County. Getting together and exchanging ideas on the various phases of live stock production is no small part of the benefits to be derived from attending this conference. Prof. W. A. Cochel earnestly desires the co-operation of all the stockmen in the state in the work he is doing for their benefit.

P. W. Goebel, president of the Commercial National Bank of Kansas City, Kansas, and of the American Banking Association, will speak on "Financing the Cattle Industry." T. H. Ingwersen, of Chicago, for twenty-eight years a cattle buyer on the Chicago market, will discuss "The Cattle Buyer's Viewpoint."

Murdo McKenzie, San Paulo, Brazil, who was formerly the manager of the Matador Ranch; Gov. Arthur Capper, and ex-Gov. W. R. Stubbs will also be present and take part in the program.

The results of experimental work will be given. Six lots of cattle are being fed with a view to determining the comparative value of the influence of different methods of curing alfalfa in fattening cattle. A comparison is also being made between alfalfa hay and sweet clover for fattening purposes, and of the value of corn and barley. The steers have been fed as follows: Lot 1, ground barley, cottonseed meal, alfalfa hay, and silage; Lot 2, shelled corn, cottonseed meal, silage; Lot 3, shelled corn, cottonseed meal, alfalfa hay (green); Lot 4, shelled corn, cottonseed meal, alfalfa hay (brown); Lot 5, shelled corn, cottonseed meal, sweet clover hay; Lot 6, shelled corn, cottonseed meal, alfalfa silage.

The visitors will be taken on an auto trip to the agronomy farm where the field experiments will be explained. An opportunity will be given to inspect the dairy herd and other college stock.

### INCREASE PAY OF SOLDIERS

The selective draft act which was approved last week makes a substantial increase in the pay of enlisted men. The new schedule has just been sent out to the recruiting officers. The pay of enlisted men ranges from \$30 a month for second class privates and buglers to \$81 a month for master hospital sergeant, medical department, master engineers, senior grade, engineers, quartermaster sergeant, senior grade, quartermaster corps. There is need for a great many men having special training of various kinds, and the pay is in accordance with the value of the service rendered.

Make new plantings of snap beans, lima beans, sweet corn, okra, squashes, beets, and cucumbers, to take the place of early lettuce, radishes, mustard, etc. Beans are of special importance just now because they are very nutritious and can be dried for later use if they cannot be canned.

## LET COUNTY AGENT HELP

NO ONE who is starting a garden for the first time should hesitate to avail himself of the advice of his state agricultural college, and, where such an official exists, of his county agricultural agent. Land which is planted and which is not cared for represents a greater waste than if it had not been planted at all. This is something which should be borne in mind by the thousands who are venturing into the garden world for the first time this spring. There is a chance that unless these garden activities are properly supervised there will be a waste of valuable seeds and no less valuable labor. It seems to us that the present time represents an admirable opportunity for the extension of the activities of the county agricultural agents who are now so widely scattered throughout the country. These agents should during the present year be provided with assistants to help in the planting and the care of town and village gardens. Communities might well appoint garden supervisors to advise and aid all those who are venturing into the new field of food production.—The Outlook.



# FORAGE CROPS FOR STOCK

*Must Have Abundance of Cheap Feed to Handle Live Stock Profitably*

THE live stock industry is absolutely dependent on the production of an abundance of cheap feed. No matter what kind of stock we handle, the greatest service they can render is to furnish a market for a lot of farm-grown feed that would otherwise be of little value. There is little profit in handling stock if it is necessary to buy large quantities of feed for them. In sections where the soil and general conditions are not favorable to the extensive growing of cash grain crops, live stock must become the basis of any system of profitable farming.

These fundamental ideas as to the relation of live stock to farming are being advocated and promoted by the Southeast Kansas Improved Live Stock Association which held a most successful meeting at Fredonia in February. The idea of depending more largely on the growing of such crops as can be consumed by live stock is gaining ground in that part of the state. It is important that those who are interested in live stock in that section, or in any other section, study carefully the kinds of forage crops that are best to grow and the methods of growing them. Special interest is being taken in such questions in Southeastern Kansas. Our mail today brought us, among other letters of a similar nature, one from a reader in Cherokee County which suggests the problems being considered. This reader asks about sowing red top and sweet clover together for pasture. He says he does not know much about sweet clover but would like to try some this fall or next spring. Many in this section of the state are interested along similar lines. Sweet clover is a crop of exceptional promise for that part of the state.

At the Fredonia meeting referred to this question of forage crops for stock was one of the important subjects discussed. In answering our correspondent's inquiry and supplying information desired by many others, we would refer to some of the things said at this meeting. Prof. L. E. Call, of the agricultural college, who made the principal talk on this subject, pointed out that feed crops for this region may be classed as follows: First, crops for pasture; second, crops for hay and roughage; and third, crops for silage.

Good pastures are absolutely essential for the economical production of live stock. There are many farms where the native pastures have become unproductive and where it is desirable to supplement them by seeding a part of the cultivated land to mixed grasses. The old pastures may then be brought under cultivation or given a rest.

The most promising grasses to seed for pasture purposes in Southeast Kansas are Kentucky bluegrass, red top, timothy, orchard grass, English bluegrass, alsike clover, Japanese clover, and sweet clover. The best one to sow will depend upon the type of soil and location. Of the grasses proper, timothy and red top are best for low-lying ground. On well drained bottom land a mixture consisting of two to three pounds of alsike clover, five pounds of sweet clover, four to six pounds of timothy, four to five pounds of red top, and one to two pounds of Kentucky bluegrass gives good results. On upland soils in a fair state of fertility a mixture of five pounds of sweet clover, four pounds of English bluegrass, six pounds of timothy, and one to two pounds of Kentucky bluegrass is good. On thin upland soils containing a fair supply of lime, sweet clover seeded at the rate of ten to fifteen pounds to the acre makes the most economical pasture crop. On thin planted shale soil of an acid nature sweet clover will not make a satisfactory growth and there are no other grasses that will do well. For such soils a mixture of ten to twelve pounds of red top and four to five pounds of alsike clover would be the most apt to succeed.

SWEET CLOVER AS PASTURE CROP  
At a result of his observations Profes-

or Call stated that sweet clover is one of the best pasture crops for Southeast Kansas except on the white soils of that section or on other soils very deficient in lime. When it can be grown it makes excellent pasture for cattle, sheep, horses, and hogs. It very rarely causes bloat and for this reason is preferable to alfalfa for pasturing cattle or sheep.

Because of its vigorous growing habits, sweet clover will pasture more stock per acre than most other pasture grasses or legumes. It is about equal to alfalfa and red clover in feeding value and stock pastured on it make gains that compare favorably with those secured from the latter crops. It is especially valuable for the poorer types of soil where alfalfa and pasture grasses can seldom be grown with profit.

Sweet clover can be used to good advantage in supplementing other pasture. It produces early and late grazing, survives the midsummer drouths, often furnishes good pasture during the time regular pasture grasses are dormant, and produces fairly well on soils that would otherwise be practically barren. Sweet clover may be grown along river bottoms, on land where the water does not stand, even though the water table occasionally rises within two feet of the surface of the soil. Because of this fact it is an important crop on the low river bottoms where the water table is too near the surface for alfalfa.

As a rule, live stock must acquire a taste for sweet clover before they will eat it. The best way to accustom them to the crop is to pasture them upon it

early in the spring before other forms of green feed are available.

For best results sweet clover should be pastured heavily enough to keep down the growth, so there will be an abundance of fresh shoots at all times. During the second season it may be necessary to clip back the old growth once to stimulate the development of fresh shoots. In case permanent pasture is desired, sufficient plants should be left to reseed the field. If hogs are pastured on the sweet clover during the first year it is best to ring them to prevent their digging up the roots of the young plants.

Maximum returns in pasturing sweet clover where the pasture enters into a rotation can be secured by maintaining two fields, one of which is seeded the

## Principal Garden Insects and Remedies

THE home gardener must count upon the presence in his garden of insect pests, and if not combated they will interfere seriously with yields and in many instances destroy the plants. The following table, prepared by J. H. Merrill, Assistant Entomologist, Kansas Experiment Station, lists the insects most likely to appear in the vegetable garden and furnishes information in regard to the plants attacked and the treatment recommended:

CROPS ATTACKED	INSECT PEST	WHAT TO DO	WHEN TO DO IT
Beans, Peas .....	Aphids (plant lice sucking sap from the leaves) .....	Nicotine sulfate— $\frac{1}{2}$ pint to 100 gallons of water plus 3 or 4 pounds of soap. One teaspoonful to 1 quart of water plus a small piece of soap. Soapy spray—1 pound of laundry soap to 6 gallons of water.	When insects first appear.
Beets, Chard, Spinach .....	Webworm (worm which eats and ties the leaves) .....	Arsenate of lead—3 pounds of lead arsenate paste to 50 gallons of water. Must be applied with force.	As soon as insects appear.
Cabbage, Cauliflower, Turnip, Radish .....	Cabbage Worms (Soft bodied worms which devour the leaves and ruin the heads) .....	Arsenate of lead—3 pounds of lead arsenate paste to 50 gallons of water. Dust as for Colorado potato beetle.	As soon as the plants are set. Continue until heads are half formed.
	Cutworms (Fleshy worms which cut off young plants at surface of ground) .....	Poisoned bran mash— Bran .....	As soon as the damage is noticed sow it broadcast in the evening so that the amount recommended will cover 4 or 5 acres.
	Harlequin cabbage bug (An orange and black triangular bug that sucks the sap) .....	Hand picking bugs and eggs.	As soon as bugs appear.
	Aphids .....	On cabbage and cauliflower, use sprays given under beans and peas and wet the aphids. On turnip and radish, use only nicotine sulfate with 3 pounds of soap to 50 gallons, or 1 ounce to a gallon.	When they become numerous.
Cucumbers, Melons, Squashes, Pumpkins, Watermelons .....	Squash bugs (Brown bugs which suck sap from under side of leaves) .....	Hand pick bugs and eggs and trap with chips and small pieces of board. Soapy spray—1 pound of soap to 3 gallons of water. Strike the bug so as to actually wet it.	When insects appear.
	Striped cucumber beetle (Small, yellow and black striped beetles which attack young plants) .....	Protect young plants with screens. Dust with tobacco, lime, or sulphur. Apply arsenate of lead liberally, using 3 pounds of lead arsenate paste to 50 gallons of water.	When the insects appear. Repeat once a week until danger is past.
	Aphids (Plant lice sucking sap from leaves) .....	Nicotine sulfate and soapy spray used as for bean aphids. Spray under sides of leaves to hit insects.	As soon as insects appear.
Onions .....	Onion thrips (Small sucking insects causing white spots on plant) .....	Spray as for aphids, using high pressure.	When insects appear.
Potatoes, Egg Plants, Peppers .....	Potato bug (Thick, striped beetle and reddish larvae eating leaves) .....	Arsenate of lead—4 pounds of lead arsenate paste to 50 gallons of water. Paris green .....	Hand pick adults and eggs when plants are not large enough to spray.
	Flea-beetles (Small jumping beetles which perforate the leaves) .....	Freshly slaked lime .....	Spray when insects are attacking the plants.
	Corn earworm (Worm found eating the kernels of corn in the ear) .....	As a dust—1 heaping tablespoonful of paris green or powdered arsenate of lead to 1 quart of flour or hydrated lime. Arsenate of lead and Bordeaux mixture on under sides of leaves.	Dust by means of perforated can or cloth bag while dew is still on plants. Spray when insects appear.
Sweet Corn .....	Corn earworm (Worm found eating the kernels of corn in the ear) .....	Three parts of powdered arsenate of lead to 1 part sulphur or flour.	Dust with cheesecloth bag, perforated can or powder gun when silks first appear and repeat every four or five days while corn is in silk.
Likely to attack any garden truck .....	Grasshoppers .....	Poisoned bran mash as recommended for cutworms.	Sow broadcast in the morning so that the amount recommended will cover 4 or 5 acres.



year following the seeding of the other. Newly-seeded sweet clover will furnish pasture after it makes a growth of about twelve inches. Ordinarily it does not attain this height until some time in June in Eastern Kansas. It can then be grazed for the remainder of the season if not pastured too heavily. The second year sweet clover makes a rapid early growth and will provide pasture from very early in the spring until the new seeding is available. The stock can then be transferred to the new field and the old field left for seed production or for hay, or it may be pastured alternately with the new field. By seeding a field to sweet clover every spring, this method of pasturing the crop may be continued indefinitely. Sweet clover pasture is available throughout the growing season and for a longer period than can be secured from most pasture grasses.

#### CROPS FOR HAY

Two classes of hay crops can be successfully grown in Southeast Kansas. First, the usual crops such as cowpeas, soy beans, millet, sweet sorghum, and Sudan grass; and second, perennial crops such as clover, sweet clover, and alfalfa.

Soy beans and cowpeas can be successfully grown on almost all types of soil in this section of the state. They are especially valuable to plant in the summer as a catch crop after harvesting a small crop of oats, barley, or wheat. If a seed bed can be prepared and the crop planted before the first of August, a fair crop of hay or pasture can usually be obtained. The Whippoorwill, a large-growing cowpea, is one of the heaviest yielding varieties, but it should not be sown after August 1. For later planting, the New Era or Groit should be used. Soy beans usually produce as heavily as cowpeas but are a little more sensitive to soil conditions and usually require inoculation when grown for the first time.

Sweet sorghum—commonly called cane—is a valuable crop to sow for roughage. Sudan grass has replaced this crop to some extent. Sudan grass does not make as heavy a yield under ordinary conditions as a good variety of cane, like Kansas Orange or Sumac, but the hay is finer, more easily cured, and the quality is better. A large number of tests comparing the two crops for hay production have been made by the experiment station in co-operation with farmers in Southeastern Kansas.

As an average of eleven tests conducted during the seasons of 1915 and 1916, in Allen, Miami, Cherokee and Montgomery counties, Kansas Orange cane has produced 2.3 tons of field-cured hay while Sudan grass has produced 1.3 tons. The cane is a little more difficult to cure and undoubtedly contained more water when weighed than the Sudan grass. It is also coarser and is more wasteful in feeding. Sudan grass has a decided advantage in being a crop that can be more easily stacked or even baled and thus stored in better condition than cane. The Sudan grass also often furnishes a large amount of fall pasture after the hay crop is harvested. Everything considered, Sudan grass is almost if not entirely equal to sorghum for hay purposes in seasons when the seed can be bought at a reasonable price.

Perennial crops should be depended upon to produce most of the hay. Not only are such crops more economically grown, but they are of greater value in increasing the fertility of the soil and are usually more easily cured and of better quality for seed than the annual hay crops.

Red clover should be the crop most generally grown for hay in Southeast Kansas. Mixed with a little alsike clover and timothy, it makes a satisfactory and profitable crop on most of the soils of this section which are not acid. It can be grown under wetter conditions than alfalfa and is an easier crop to handle and a better crop to feed than sweet clover.

Sweet clover is growing in favor as a hay crop because of the ease with which it can usually be established, especially on poor soils. When properly handled the quality of the hay is good and is relished by all classes of stock when they become accustomed to it.

#### ALFALFA REQUIRES FERTILIZING

Alfalfa is the best and most profitable crop to grow for hay on bottom land that is well drained and also on red limestone upland soils. It can be successfully grown on the black limestone soils if well drained, but red clover is usually as good and frequently better

on this type of soil. Alfalfa can also be grown on many soils formed from inter-bedded sandstone and shale if the soil is properly prepared for the crop.

An experiment to determine the best method of treating soil formed from inter-bedded sandstone and shale to prepare it for alfalfa has been conducted in Allen County near Carlyle. Alfalfa was sown in the fall of 1914 on ground that had previously been inoculated, about one-half of which had been underdrained with tile. A series of plots laid off so as to extend across both the drained and undrained areas of the field were treated, before seeding, with manure, lime, and commercial fertilizers, as indicated in the following table.

The manure was applied at the rate of ten tons per acre, ground lime rock at the rate of 3,000 pounds per acre, acid phosphate at the rate of 250 pounds, and muriate of potash at the rate of fifty pounds per acre. The manure and lime were applied before seeding only, but the commercial fertilizers have been applied each season.

The alfalfa on the unfertilized ground has produced a total yield of 3,208 pounds. The crop made a poor growth, was very weedy, and the alfalfa plants weak and sickly. This plot will undoubtedly be taken by weeds in another season. When lime alone was used the total yield was 4,765 pounds and the plants were much more healthy. Barnyard manure alone increased the yield to 6,280 pounds and where used with lime to 7,571 pounds. The plot receiving acid phosphate and lime produced 5,893 pounds, while potash in addition to lime and acid phosphate increased the yield to 6,099 pounds. The underdrained ground produced on the average 842 pounds more hay than the undrained ground.

The test shows that alfalfa cannot be successfully grown on unfertilized soil of this character but that lime, manure, or fertilizer greatly improves its growth. Lime or manure alone will insure a profitable stand, but the combination of the two is much better. When manure cannot be obtained, acid phosphate or some other commercial fertilizer supplying phosphorous can be profitably used. Potash was not profitable, although it increased the yield slightly. Underdraining produced a marked increase in yield and will undoubtedly extend the life of the crop.

#### Pure-Bred Stallions Increase

Eighty per cent of the stallions advertised for public service in Kansas this year are pure-breds and only 20 per cent grades and scrubs, according to Dr. C. W. McCampbell, secretary of the State Live Stock Registry Board.

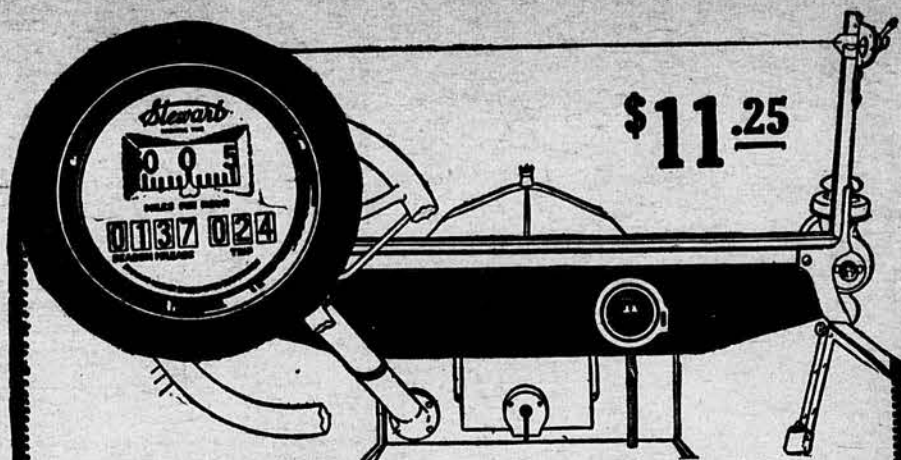
In 1909, the year before Kansas had a stallion license law, 70 per cent of all the stallions advertised for public service were advertised as pure-breds while half of them actually were grades and scrubs. Not one grade or scrub stallion has been advertised as a pure-bred this year as compared with 2,022 of them in 1909. The stallion license law will not permit fraudulent advertising.

A great change also has taken place in the kind of stallions standing for public service in Kansas. In the last six years the grades and scrubs standing for public service in Kansas have decreased 1,300 and the pure-breds have increased 700.

This demand for sires of better breeding is due largely to the enforcement of the stallion license law, the main purpose of which is to give stallion patrons a means of knowing exactly the breeding of any stallion they may wish to patronize.

#### Protecting Seed

L. H. S., of Eastern Colorado, asks if there is any method of treating seed that will protect it from being eaten by ground squirrels. He is poisoning the squirrels by putting out poisoned grain, but they are so numerous that he fears they will dig up the seed planted. Lee R. Dice, of the zoological department of the agricultural college, states that the best method of treating seed to prevent its being eaten by squirrels or other rodents is to coat it with coal tar before planting, although even this method will not always prevent damage. To treat the seed, mix a large spoonful of coal tar with a gallon of boiling water. When the mixture has partly cooled the seed may be stirred in and allowed to remain several minutes without injuring its germination.



## Stewart Instrument Board for Fords

**Takes Vibration out of steering wheel.**

**Improves Appearance. No bolts—No screws—No Brackets.**

**Instantaneous Installation.**

**Can be installed in One Minute.**



Stewart V-Ray Spark Plug



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Stewart Autoguard \$9  
West of Rocky Mts. \$9.75

**JUST WHAT every Ford owner wants.** Anyone can install it—takes only a minute. No bolts, no screws, nuts, or brackets. Not like any other instrument board. When installed it becomes a part of the car.

To install it, merely exert a downward pull on the steering column, slip the board into place and it is there to stay.

Top edge of the board is grooved to fit the cowl just below the windshield. The lower edge rests tight against the steering column—eliminates every bit of vibration from the steering wheel. Makes driving a pleasure—no more tired arms, no matter how far you drive.

You can install on the Stewart Instrument Board a clock, headlight control, priming lever, starter control, and any other accessories you desire. If desired, the Instrument Board can be purchased without the Speedometer.

It is exactly what is needed to give the Ford car that look of finished elegance.

Hundreds of thousands of Ford owners will want the Stewart Instrument Board, because of its many features: also because it is furnished with a Stewart magnetic type Speedometer.

The Stewart Speedometer is a flush type instrument. The large figures are white on black. Has season register and also a trip register which can be reset to any mile or tenth of a mile.

You need a Stewart Speedometer to tell how far you travel, how fast you go to avoid arrest for speeding; what mileage you get from gasoline, oil and tires. You can buy the Special Ford model Stewart Speedometer for \$10; the Stewart Instrument Board for \$1.25, or the combination complete for \$11.25.

Better see your dealer today.

The Stewart V-Ray Spark Plug, with its four sparking points, will put a V-Ray flame in your cylinders. Surefire, oil-proof, compression tight and practically fracture-proof. Price \$1.

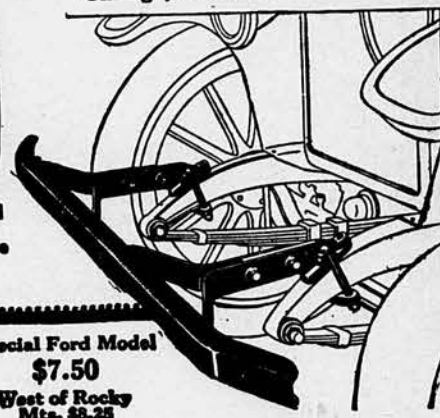
You need the ever-reliable, far-sounding Stewart Warning Signal. A commanding warning blast just when it's needed. Motor-driven type \$6.00—hand-operated type, \$3.50.

The Stewart V-Ray Searchlight throws a big full daylight ray in any direction. It's a beauty too. You ought to have it. Price \$5.

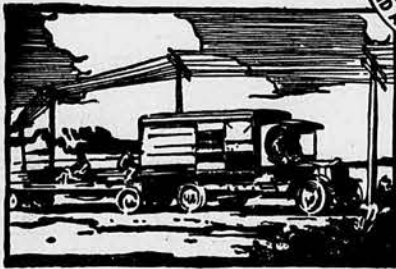
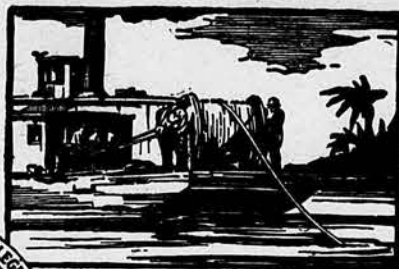
The Stewart Autoguard is another big protection. Exceedingly light but very, very strong. Every Ford ought to have the Autoguard—yours included.

Stewart Products are for sale by leading accessory dealers, jobbers and garages.

Stewart-Warner Speedometer Corp.  
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## Meeting the Universal Need

In the high passes of the mountains, accessible only to the daring pioneer and the sure-footed burro, there are telephone linemen stringing wires.

Across bays or rivers a flat-bottomed boat is used to unreel the message-bearing cables and lay them beneath the water.

Over the sand-blown, treeless desert a truck train plows its way with telephone material and supplies.

Through dense forests linemen are felling trees and cutting a swath for lines of wire-laden poles.

Vast telephone extensions are progressing simultaneously in the waste places as well as in the thickly populated communities.

These betterments are ceaseless and they are voluntary, requiring the expenditure of almost superhuman imagination, energy and large capital.

In the Bell organization, besides the army of manual toilers, there is an army of experts, including almost the entire gamut of human labors. These men, scientific and practical, are constantly inventing means for supplying the numberless new demands of the telephone using public.

**AMERICAN TELEPHONE AND TELEGRAPH COMPANY  
AND ASSOCIATED COMPANIES**  
**One Policy      One System      Universal Service**



## ARE YOUR CROPS PROTECTED ?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for \$50,000.

### THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

### THE GRAIN GROWERS HAIL INSURANCE COMPANY

Elmer F. Bagley, Secretary, Topeka, Kansas.

## Kansas Farmer Dairy Club

### Scale For Weighing Milk

THE keeping of accurate records is a very important part of the work of the Kansas Farmer Dairy Club. It is no small achievement to have accurately weighed and recorded the milk produced by a cow in a period of twelve months. This is one of the things you must do as a member of the dairy club. There is no information more valuable to a dairyman than an accurate record of the amount of milk produced by the cows in his herd. In order to keep such records it is necessary to have a reliable scale to use in weighing the milk. If one of the cheap spring balances are used, mistakes will be frequent and by the end of the year the sum of all of these mistakes may be quite large. We are anxious to have members of the dairy club form habits of accuracy in their work. You should know to a cent what it is costing to feed your cow and to produce a pound of butter fat or a gallon of milk.



The scale illustrated in this article is the best kind to use in weighing the milk. The same scale may also be used in weighing the feed. It is known as the standard thirty-pound milk scale. There are sixty and 120-pound scales made, but they cost more than the thirty-pound scale and this size will do very well for the work of the dairy club. There will probably be few cows milked that will give more than thirty pounds at any one milking.

These scales are made to weigh either ounces or tenths of pounds. We recommend that a scale graduated in tenths be used. There is a red hand on the dial of the scale, which is movable. By loosening a screw it can be set so as to stand at zero when the milk pail hangs on the hook. It can then be fixed in place by tightening the screw and if the same pail is always used in weighing the milk, this hand will show the amount of milk in the pail.

Some of our club members seem to have trouble in learning to write the amount of milk in the pail in the form of a whole number and a decimal fraction. Half way between the pound marks on the dial is a mark which indicates a half pound, or .5 of a pound. Each one of the four longer graduations between this half-pound mark and the pound mark are tenths. Between each of these marks indicating tenths is a shorter mark. The pound is thus divided into twenty parts, and some of the members write their records in the form of a common fraction—for example,  $14\frac{1}{20}$  pounds. With a whole month's record, every single weight of which has a common fraction, the work of adding the columns is much more difficult than if the weights are all recorded in the decimal form. In reading the scale, write the number of pounds first, then count the number of tenths and write that immediately following the decimal point. If the red hand stops half way between two lines indicating tenths, simply write the figure 5 following the figure indicating the number of tenths. In reading the scale and writing the  $14\frac{1}{20}$  pounds used above as an illustration, it will be noted that the hand has passed the third graduation indicating tenths following the fourteen pounds and stops half way between this graduation and the one indicating four-tenths. The correct way to record the weight is to write it 14.35.

Whatever the number of tenths, the second figure of the decimal is always 5 when the hand stops midway between two graduations indicating tenths. The

use of decimal fractions is very simple and will save a great deal of difficult addition work.

One of the requirements of the club work is that members shall use a scale like the one illustrated to weigh their milk. At the present time these scales are costing \$3, to which must be added 15 cents to cover postage. We will be glad to order scales for members of the club who may wish us to do so. Some may be so located that you can get the cream buyer to whom you sell your cream to order them. In ordering scales we will instruct the company to mail them direct to you, sending the bill to KANSAS FARMER, and you pay us the amount due. We cannot guarantee the price quoted, as metal is liable to increase in cost and the companies selling the scales might have to raise the price.

### Borrow of Home Banker

Boys or girls who wish to become members of the Kansas Farmer Dairy Club cannot expect bankers who do not know them to loan the money needed to buy a cow. The function of banks is to furnish financial help to people in the community where the bank is located. They cannot be expected to loan money to strangers. It is a part of their business to be familiar with the people to whom they loan money so that they may have assurance that the money will be repaid according to contract. Credit is based on confidence and in order to have confidence it is necessary that the banker know his customers personally and be familiar with their habits and the conditions which surround them.

A few weeks ago we referred to a letter from Ike W. Crumley, of the Rexford State Bank, in which he assured us he would loan money to anyone wanting to buy a cow or a dozen cows, and expressing a desire to help finance any worthy applicant for such a loan. We suggested that the boys and girls in that territory take advantage of that generous offer. He has just informed us that he is receiving letters from remote parts of the state as a result of this reference to his offer to make loans.

If you want to become a member of the Kansas Farmer Dairy Club, go to the banker with whom your people do business. This banker knows you and we do not believe he will turn you down if he has confidence in your ability to do your part in paying back the loan which he makes you.

### Hardiness in Cows

Is she hardy? is the question often asked by those considering for the first time the buying of dairy-bred cows. There is often a wrong idea back of this question. What the man usually has in mind is not whether a cow has a strong constitution, a great capacity to use feed for milk production and the endurance to persist in her business of giving milk through a long lactation period, but rather will she endure neglect and hardship, improper handling due to lack of real dairy knowledge, and still keep up a profitable milk flow. He wants to know whether she will rustle her feed for herself like a Hereford raised on the range, or stand the cold with no other shelter than a wire fence for a wind-break.

It is this conception of hardiness that prevents dairying from being a success when taken up by those who have not yet learned what is the true measure of a dairy cow's work. Is it any wonder that well-bred dairy animals dry up and fail to return a profit when handled by men having so little appreciation of what constitutes real merit in a dairy animal?

Do not feed the dairy herd as a herd, for cows differ in their food requirements just as human beings do. By feeding all cows in the herd alike, some are sure not to get enough for the greatest profit and others will get more than they can use to advantage.



## Cooperative Bull Associations

**T**HE use of good pure-bred bulls is the cheapest and most effective means of improving dairy herds. Co-operative ownership is one way to secure the use of better bulls. There are now more than thirty active co-operative bull associations in the United States. On July 1, 1916, there were thirty-two, representing a total membership of 650 and owning about 120 pure-bred bulls.

The co-operative bull association, says an article in the 1916 Yearbook of the U. S. Department of Agriculture, is especially adapted to herds which are so small that a valuable bull for each herd would be too heavy an investment to be justified by the extent of the business. Through co-operation, cattle owners are enabled to obtain the benefits which come from the use of a pure-bred sire at an expense which is not greater, and in many cases is even less, than the cost of maintaining a scrub.

"Better and fewer bulls" is a phrase which represents the aim of these associations. A typical organization is composed of from fifteen to thirty farmers who own jointly five bulls. The territory of the association is divided into five breeding blocks and one bull assigned to each block. To prevent inbreeding, each bull is moved to the next block every two years. Barring losses from death or other causes, therefore, no new bulls need be purchased for ten years. It is customary to apportion the purchase price, and the expense of supporting the bulls, among the members according to the number of cows owned by each. A smaller number of men can organize for joint ownership. The simplest possible plan of co-operation is for two neighbors to buy a good bull together. Co-operation, to be successful, must be between men who know each other fully and have full confidence in each other.

These associations have been known in the United States only since 1908, when the first one was organized, in Michigan. The short time which has elapsed since then makes it impossible to demonstrate the full value of the associations, because the influence of a pure-bred sire is felt in the herd for more than one generation. Similar associations, however, have existed in Denmark ever since 1874, and the movement in that country has proved most successful. So far as we know now, there seems to be no serious objection to organizations of this character to offset their very obvious advantages. Instead of spreading abortion,

tuberculosis, and other diseases, as has been sometimes alleged, they seem to aid in the control of contagion. One association, for example, refused to permit one of its members to use the bulls until he had consented to dispose of all his cattle which reacted to the tuberculin test.

This same association is composed of sixteen farmers and is organized into five blocks. Before the association was formed, eight farmers who afterwards became members had each an average investment of \$85 in a scrub bull. These scrubs were sold and five pure-bred bulls were bought at \$240 each, or an average of \$75 for each member. This actual saving in cash, however, is a far less important matter than the fact that the members now are able to use pure-bred sires instead of the former scrubs. A larger membership would of course reduce the expense still further. In another association which has more than 100 members the original cost to each for purchasing the pure-bred sires was only \$23.

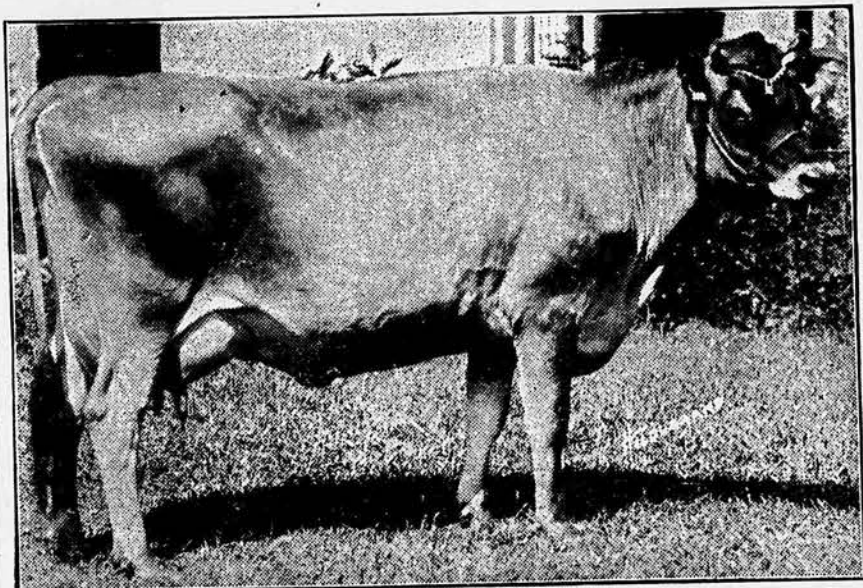
In regard to the returns from grading up cattle through the use of the pure-bred bulls of the co-operative associations, one estimate obtained from farmers in Maryland, Michigan, and Minnesota, places the increased value of the offspring in the first generation at from 30 to 80 per cent, or an average of 65 per cent. Such large profits are commonly associated by business men with the possibility of equally serious loss, but in the bull associations this does not seem to be true. It is difficult to see that any probability of loss exists. "It is true," says the article mentioned, "that some associations have disbanded, but there is no case in which any member actually lost on his investment."

### Feeds Bran and Cottonseed

My cow is doing fine now. I am feeding her seven pounds of bran and three pounds of cottonseed meal daily. She is giving about thirty pounds of milk a day and has been milking ever since July 28. She gave 952 pounds of milk in April. The grass is starting now and that will help to increase the milk flow and save grain.

The banker of whom I borrowed the money things that she is making a fine record. I had to pay 10 per cent interest on my note. —LESTER KINCAID, Logan County.

A bushel of corn fed on some good pasture is worth two fed in a dry lot.



**R**ALEIGH'S EMINENT BUTTERCUP, whose sire is Queen's Raleigh, has earned the right to the title of champion two-year-old dairy heifer of Missouri. On January 5, 1917, she completed a year's official record, producing 11,697.3 pounds of milk and 517.72 pounds of butter fat. This entitles this heifer to a Register of Merit certificate, Class AA. The requirement of the American Jersey Cattle Club for this certificate in the age group to which this heifer belongs is 258.5 pounds of butter fat. A comparison of this record with that of her mother would indicate that the sire had transmitted high production. The heifer's mother, Lady Eminent Buttercup, made her best record of 555.75 pounds of butter fat at the age of seven years. Raleigh's Eminent Buttercup is owned by Longview Farm, Lees Summit, Missouri.



Has self-centering bowl; detached spindle

Every De Laval equipped with Ball Speed-Indicator

## NEW DE LAVAL CREAM SEPARATOR

**T**HESE are the days when you are getting more milk in the pail, and with butter-fat at its present high price you want to be dead sure that you are getting all the cream out of the pail.

You certainly can't afford to feed butter-fat to the calves and pigs at from 30 to 40 cents a pound.

All sorts of "claims" are made for various cream separators, but what you are looking for is "proof."

Here is the most convincing kind of proof that the De Laval is the cleanest skimming machine:

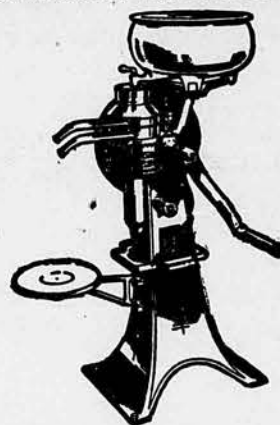
Fifteen years ago there were a dozen different makes of creamery or factory separators in use.

Today the creamerymen and large milk plants the world over use the De Laval almost exclusively. In fact, it's hard to find a large cream producer or creameryman who will allow any separator other than a De Laval in his plant, no matter what the price.

Why? Because they have found that it makes a difference of several thousand dollars a year to them whether a De Laval or some other make of machine is used. They simply can't afford to use any other machine.

This is proof of De Laval closer skimming that you can't afford to ignore. Even if you don't separate as much cream as the creameryman, you can't afford to waste it any more than he can.

Your local De Laval agent will be glad to let you try out a New De Laval on your own place. If you don't know the local agent, write to our nearest office for catalog or other information.



### THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago  
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



## Raise High Priced Wheat on Fertile Canadian Soil

Canada extends to you a hearty invitation to settle on her **FREE Homestead lands of 160 acres each** or secure some of the low priced lands in **Manitoba, Saskatchewan and Alberta**. This year wheat is higher but **Canadian land just as cheap**, so the opportunity is more attractive than ever. Canada wants you to help feed the world by tilling some of her fertile soil —land similar to that which during many years has averaged 20 to 45 bushels of wheat to the acre. Think of the money you can make with wheat, at over \$2 a bushel and land so easy to get. Wonderful yields also of **Oats, Barley and Flax**. Mixed farming in Western Canada is as profitable an industry as grain growing.

The Government this year is asking farmers to put increased acreage into grain. There is now a great demand for farm laborers to replace the many young men who have volunteered for service in the war. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or to

GEO. A. COOK

2012 Main St., Kansas City, Mo.

Canadian Government Agent.



## It Takes Punch In the Power To Do Farm Work

**TOY** tractors have fooled a great many people, makers and buyers alike. Theory won't plow a stony field or steadily drive a threshing machine. Nothing but strength, weight and power will do this kind of work. The Nichols & Shepard Co. build work engines and build them so that you get *paying results* when they are at work.

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**Nichols & Shepard Co.**  
In Continuous Business Since 1848  
Builders Exclusively of Red River Special  
Tractors, Wind Stacks, Feeders, Steam  
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## MY PRICES Will Save You Money

Before you buy a cream separator (gasoline engine, manure spreader or farm tractor) be sure and get my prices—the lowest prices ever made on goods of equal quality. We sell direct to you from our great factories at wholesale. We specialize in manufacturing these lines, each article having special patented features found on no other make. They are exclusive on the Gal-  
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"I like it better than one I paid \$100 for." John Schrader, Corey, Pa.

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With INCLOSED MOTOR  
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EPLASH OILING SYSTEM

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Every feature desirable in a windmill in the  
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**Admiral Hay Press Co., Box 11, Kansas City, Mo.**

You can't figure from high-powered vests. Many a polished hood covers a bum motor.—American Motorist.



## How to Cut Sweet Clover

**E**XAMINATION of hundreds of acres of sweet clover in different sections of the United States during 1915 and 1916 showed that the stand on at least 50 per cent of the fields was partly or entirely killed by cutting the first crop of the second season too close to the ground. That is the report of a specialist in forage crop investigations of the U. S. Department of Agriculture, included in Farmers' Bulletin 820, "Sweet Clover: Utilization," soon to be published. To prevent the loss of stands, farmers should examine the fields carefully before mowing to determine the height at which the plants should be cut. At least one healthy bud or young branch should be left on each stub. In fact, the plants should be cut several inches above the young shoots or buds, as the stubble may die back from one to three inches if they are cut during damp or rainy weather.

Because of the difference in the growth that sweet clover makes on different types of soil and because of the difference in thickness of stands in different fields, it is impossible to state definitely the proper height to cut the first crop the second season when a second crop is to be expected. When the field contains a good stand and when the plants have made no more than a thirty-inch growth, a five- to six-inch stubble usually will be sufficient to insure a second crop. When fields contain very heavy stands—fifteen to twenty-five plants to the square foot—it may be necessary to leave an eight-inch stubble. When the plants have been permitted to make a thirty-six to forty-inch growth, a stubble ten to twelve inches high should be left. In semi-arid regions where the plants do not make as rapid growth as in humid sections, they may, as a rule, be cut somewhat closer to the ground without injury.

The proper time to cut the first crop the second season will vary in different localities, depending upon the rainfall, the temperature, and the fertility of the soil. In no event should the plants be allowed to show flower buds or become woody before mowing. On fertile, well-limed soils, in many sections, a very rapid growth is made in the spring, and often the plants will not show flower buds until about five feet high. On such soils it is essential that the first crop be cut when the plants are no more than thirty to thirty-two inches high, if hay is desired which is not stemmy, and if a second growth is to be expected. In cutting the first crop of the second season it is a good plan to use extension shoe soles on the mower so that a high stubble may be left.

It is not necessary to leave more than an ordinary stubble when cutting the sweet clover hay crop in the fall of the year of seeding. A stubble four or five inches high, however, will serve to hold drifting snow and undoubtedly will be of some help in protecting the plants from winter injury.

In some sections of the country it is difficult to cure sweet clover hay because the stand is ready to cut at a time of the year when weather conditions are likely to be unfavorable for hay making. Succulent plants like sweet clover can not be cured into hay of good quality unless excellent weather conditions prevail during the haying period. One of the most successful methods for handling sweet clover hay is to allow the plants to remain in the swath until they are well wilted or just before the leaves begin to cure. The hay should then be raked into windrows and cocked at once. The cocks should be made as high and as narrow as possible, as this will permit better ventilation. In curing, the cocks will shrink from one-third to one-half their original size. It may take ten days or two weeks to cure sweet clover by this method, but when well cured all the leaves will be intact and the hay will have an excellent color and aroma.

When sweet clover is cocked at the proper time the leaves will cure flat and in such a manner that the cocks will readily shed water during heavy rains.

In stacking sweet clover, a cover should be provided either in the form of a roof, a canvas, or long green grass. A foundation of rails, posts, or boards, is desirable, as this will permit the circulation of air under the stack. No instance of spontaneous combustion in sweet clover hay have been noted, says the writer of this bulletin, but this may be due to the fact that comparatively little sweet clover hay is stored in barns. The same precautions in this regard should be taken with sweet clover hay as with red clover or alfalfa.

### Farmer Doing His Part

As usual, everybody is advising the Kansas farmer, everybody is knocking because they think he is getting the big prices, when on examination they would find that the holdings of the necessities of life are in the hands of speculators. Every man and woman, every boy and girl, upon the Kansas farms is speeding up to do his or her level best. How can you help? That is your problem. Your bit is as much a patriotic necessity as that of the man who works out in the hot sun to win the food from Mother Earth that you and countless millions must have and have soon. Who is going to demonstrate that he will not "hike" prices to make a stake, will not make food and clothes and shelter, seed and implements and money inaccessible at this time because of the exorbitant profits assessed upon it by its holders because they can? Hamans and Judases and Shylocks are to be found at all crises.

The contemptible curse of most conflicts has been that while brave men are falling for their country, over the field of battle hovers a cloud of hungry vultures fattening upon blood and flesh. So those who would, coin blood of the patriot into boodle. The strong hand of the federal government should stop the making of grain into liquor, and the speculation in foodstuffs at once. It should be an emergency war measure. In the hour of need sites for public use, railroad systems, telegraph and telephone communication, are seized and there is no criticism. These are not wasters, but ordinary agencies of public utility. Why should the waster that offers no return be exempted while people starve in war time?

Now is a good time to eliminate all unnecessary expense in any useless public service. The army of producers might be recruited from the superfluous official position holders.—ALFRED DOCKING.

### Grow Sorghum for Grain

We cannot refrain from again calling attention to the possibilities of greatly increasing our grain production by growing grain sorghums. A good many farmers over the state have made marked successes in growing these crops for grain production. The trouble has been that in too many cases grain sorghums have not been given a fair chance. But in spite of the fact that they have been given such scant attention, they have made good as revenue-producing crops. These crops, including kafir, milo and feterita, are very resistant to dry weather and in most seasons will make profitable yields even though corn may be a failure in the same localities.

These grains can be used for human food. In the making of breads and puddings and mush they are fully comparable with corn in nutrient value. They have not been used for this purpose, however, very extensively in the United States, although greater interest is being taken in recent years to directing the attention of people to their value for human food. In the present emergency the chief value of the grain sorghums

### Stewart Hartshorn

#### It Stands For All That Is Best In Shade Rollers

Only a few years ago—little more than fifty—there were no shade rollers. People *tacked* shades to the upper part of the window casing—rolled them up and tied them with cords to let the sunshine in—untied the cords and let down the shades at night! Think what it meant to go all over a house—upstairs and down—tying and untying cords!

Today we give scarcely a thought to our shade rollers—if they are Hartshorns—because they work so smoothly, so easily, so swiftly that we are never bothered by them.

#### Hartshorn Shade Rollers

There have been many imitations of Hartshorn Shade Rollers from time to time—but they have come and gone like all imitations. Hartshorn Rollers have lived because they have given the good service that was demanded of them. The secret of the smooth action of every Hartshorn Roller is the spring—the vital part. Every spring in Hartshorn Rollers is of finely tempered steel—made in our own special wire mills. These Rollers wear for years and save your shades.

Send today for "Shade Craft and Harmonious Decoration," our FREE book which tells you how to make your home more attractive.

**Stewart Hartshorn Co.**  
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### Kill All Flies! They Spread Disease

Placed anywhere, **Daisy Fly Killer** attracts and kills all flies. Neat, clean, ornamental, convenient, and cheap.

**Daisy Fly Killer**  
Kills all house flies, stable flies, and all other annoying flies. It is a sure and certain fly killer. No other fly killer is so effective. Ask for it.

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We have in stock at our various yards quite a quantity of one-piece No. 2 Clear and Better Oregon Fir Silos, which we are closing out, and are in position to name a very low price on sizes we have in stock. If interested, write for particulars. Special prices to clubs ordering in carlots.

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culled out for various reasons. A pure-bred sire is now used and the heifer calves from the best cows are saved. This spring another eighty acres of land across the road from the original forty has been purchased at a price of \$9,500.

Mr. and Mrs. Bigger went heavily in debt for the first forty acres some twelve or fifteen years ago, and everything they have has come from the profits of milking cows. The cows have not only made them a comfortable living, but have paid for the original forty, the barns, silos, and other equipment. In making these successes they have done a lot of hard work, but no great successes have been made in any business without persistent application.

The forty or fifty dairymen who visited Mr. Bigger's place took the greatest interest in what they saw. Judging from the number of questions they asked both Mr. and Mrs. Bigger while looking the place over and studying the methods, they must have seen many things that suggested helpful ideas to them. Those in charge of the trip had trouble in getting the crowd away from this place and started on to the next.

We hope many of the dairymen who visited Mr. Bigger's place and heard him explain his methods will be encouraged by his success. There should be no backward steps in dairying in this state.

### New Remedy for Calf Scours

It is generally understood that preventative measures are the best remedies for calf scours, which causes considerable trouble to some dairymen in raising calves on skim milk. The most important preventative measures are to guard against overfeeding, feed at regular periods, be sure the milk is at the proper temperature at feeding time, keep the pails and other utensils in which the skim milk for the calves is kept thoroughly clean and sterile, and also keep the pens and stalls clean.

There are two entirely distinct troubles, both of which have the symptoms of scours. One is from navel infection at time of birth and the other is from indigestion. If a calf becomes sick within a few days after birth and dies within a day or two, the case is probably navel infection. This trouble is often called white scours because the passages from the animals are generally white.

Indigestion is the cause of common scours. This generally occurs when the calf is from two weeks to a month old. Prevention is the best remedy. The common causes of indigestion are overfeeding, feeding milk cold or sour, feeding sweet milk one meal and sour the next, and dirty pails, troughs or stalls.

Each calf should be watched carefully. At the first sign of foul-smelling dung, its source should be determined, as this is one of the first indications of indigestion. The amount of milk fed should be cut to one-half the usual amount and a dose of one ounce of castor oil in milk, followed by the formalin treatment, is advisable. The formalin treatment consists in giving one tablespoonful of formalin solution, made by adding one-half ounce of formalin to 15½ ounces of water, in each pint of milk fed. The amount of milk fed may be gradually brought back to normal after a day or two.

Many feeders have obtained good results from the use of blood meal as a means of correcting a condition of scours. Where the case is mild a teaspoonful of the dried blood is added to the milk at each meal.

### Developing Dairy Heifers

An experiment that is expected to prove of inestimable value in the development of the dairy industry in Kansas is being conducted at the agricultural college under the direction of O. E. Reed, professor of dairy husbandry. Its purpose is to determine the feeds that will tend towards the perfect physical development of heifers and the production of a maximum amount of milk at the lowest possible cost.

The tendency on the part of the average dairyman is to breed early and underfeed, and because of this fact the dairy cattle do not attain full size. The best producers of any breed are those which have been fully developed to the breed standard.

The experiment in question was started two years ago. Twenty-four grade Holstein heifers—all related—were fed on skim milk up to 6 months of age. Since that six heifers have been fed on alfalfa hay and silage, and 12 on alfalfa hay, silage, and grain.

The heifers are bred to freshen at 30 months, with the exception of those in half the lot, which are fed grain as well as alfalfa hay and silage. These are bred to calf at two years. Professor Reed expects to find out whether or not cows getting the grain will develop sufficiently and give enough extra milk if allowed to calf six months earlier to pay for the extra feed they will receive. The experiment will be continued until the cows are 6 or 7 years old. By that time the department will have records on at least three milking periods.

Two of the heifers have already freshened. One of these, which is fed on alfalfa hay alone, is giving thirty pounds of milk a day and producing it at a low cost. She is eating forty to forty-five pounds of hay a day. The ordinary

amount consumed is fifteen to twenty pounds a day. The other heifer that has freshened is fed alfalfa, silage, and grain. It is producing thirty pounds of milk, eating twelve pounds of hay, thirty pounds of silage, and seven pounds of grain.

The cattle in the experiment are weighed every month, and their measurements taken.

### Missouri Cow Makes Record

Carlotta Campus Girl, a pure-bred Holstein four-year-old cow, bred and owned by the University of Missouri College of Agriculture, has recently established a new mark for four-year-old cows in Missouri. She produced 99.9 pounds of milk February 7, 1917, and

thereby obtained the state record for cows of her age and the second highest Missouri record for cows of all ages.

Missouri Chief Josephine was the granddam of Carlotta Campus Girl and was the one cow in the state to beat this record. She produced 110.2 pounds of milk in one day and holds the highest one-day record of cows of all ages in Missouri. She also was owned by the University of Missouri.

Missouri Chief Josephine also holds the year record of milk production for cows of all ages in Missouri, having produced 26,841 pounds in 365 days. Her granddaughter, Carlotta Campus Girl, made the highest record for milk in Missouri for two-year-olds by giving 15,725 pounds of milk when she was two years old.

## TRY HOG-TONE

### 60 Days FREE Treatment FOR ALL YOUR HOGS

**IF I don't make your hogs make you more money—produce more pounds of pork for you from the same amount of feed—I don't want your money! I am giving you the same opportunity to prove this that I gave Jno. W. Crane, hog raiser near South Whitley, Indiana. He writes:**

"I selected four pigs out of my bunch—three were runts. I weighed them and they averaged 85 pounds. I fed them Hog-Tone for four weeks. Then sold them eight weeks from time I weighed them and they averaged 221 pounds per hog."

**Mr. W. O. Gandy,**  
President  
Avalon Farms  
Company

## You Can't Pass This By!

Incise on any hogs no matter how healthy they appear to be, and prove it to your own satisfaction. If it doesn't do it I don't ask you to pay a cent.

I know I am safe in making this guarantee. I know what Hog-Tone has done and is doing for the herds of other hog raisers. I also know that the market price of hogs is going higher every day—and is bound to go higher from now on. There is a serious hog shortage. Especially a shortage of high-grade porkers—hogs absolutely free from worms—big hogs with sound, clean flesh! Worms are killing off the hogs!

"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms."

Avalon Farms Hog-Tone is the only Veterinary Remedy ever sold with a guarantee to produce a definite percentage of profit. I guarantee it to produce 400% profit on the cost of the medicine.

says Dr. J. T. Dinwoodie, Veterinary Specialist of the South Dakota State College. "Nearly every hog is infested with worms," declares the U. S. Dept. of Agriculture. The malignant Thorax Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms weaken the Hogs—affect every sow's litter—make millions of hogs easy victims of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time. Grasp this opportunity to try

## AVAALON FARMS HOG-TONE

### The Liquid Worm Killer and Hog Conditioner To Treat All Your Hogs for 60 Days—FREE—At My Risk!

#### Avalon Farms Hog-Tone Costs Very Little

I will ship you one \$1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment—and that treatment is guaranteed by me to give you a 400 per cent profit over and above the cost of the Hog-Tone treatment, at marketing time. This is the same opportunity that these men grasped—and made money by doing so.

H. S. McFadden, Poland China Editor of Swiss World (who feeds about 1000 hogs annually near Florence, Illinois) advises: "I received Hog-Tone and gave it a test on five pigs. Our farm manager says that it is the best worm-expeller he ever used. The pigs fed on Hog-Tone have made 25 per cent larger gains than those not fed on Hog-Tone."

John Heiman, R. F. D. No. 6, Decatur, Ind., states: "I fed the Hog-Tone to a lot of hogs that had the worms. Some of my pigs had their backs turned as like a red-hot iron. In less than two weeks I could not get to the trough to feed them. I do not know exactly what the gain on this lot of hogs was, but I could see a great change in them."

Avalon Farms Hog-Tone is a highly concentrated liquid medicine FOR HOGS ONLY. It contains highly important medicinal ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Feeds or Condition Powders of any kind.

Avalon Farms Hog-Tone is safe. It is very easy to treat your hogs with Avalon Farms Hog-Tone. IT IS EASILY MIXED WITH ANY KIND OF SLOPS, WITH THE DRINKING WATER OR DAMPENED FEED. IT IS ONLY GIVEN EVERY THIRD DAY FOR THE FIRST SIX WEEKS AND AFTER THAT ONLY ONCE A WEEK. 100 per cent strength.

Thoroughly proved on Avalon Farms, near Fort Wayne, Indiana. Cures out every kind of worms that infest hogs. By doing so, it gives protection to your hogs from easily contracting Cholera, Rheumatism, Scours, Thumps, caused by worms and indigestion. Enteritis, indigestion and other diseases that destroy literally millions of hogs. A simply wonderful tonic and conditioner—gives hogs voracious appetites, aids digestion, helps them thrive, grow and put on fast increases of flesh. Makes hogs eager for their feed.

Avalon Farms Hog-Tone is the best known tonic for hogs during gestation. It also insures strong healthy pigs. It is the reliable worm expeller which is safe to use at this time.

#### Don't Send a Penny! Just Mail Me

Simply tell me how many head of hogs you have—write down your name and address—

and mail to me. I will immediately ship you enough Avalon Farms Hog-Tone to treat your hogs for 60 days. You simply pay transportation charges. Treat your hogs according to directions. If at the end of the treatment you are not completely satisfied—simply return the labels to me and you don't owe me a cent.

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treat them for 60 days. I am to pay  
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I agree to return the labels to you at end of 60  
days and pay for the Hog-Tone at that time. If I  
like the treatment you are not completely satisfied—  
I will return the labels to you and you agree to  
cancel the charge.



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and dependability is a big point at silo filling time. This is one of the reasons for the "Ohio" silo filler's popularity. It's always ready—built for big capacity—fast work—with least chances for breakage and delays. Backed by 25 years' manufacturing experience—by the silo filler pioneers. Used by experiment stations and leading farmers everywhere. Big features: Automatic feeder, power-saving direct drive, friction reverse, single lever control, "Bull-dog" rollers, non-explosive blower. Better cut silage—picks air tight—ferments better—better food for stock. Write for catalog, also book on Silver's Silo.

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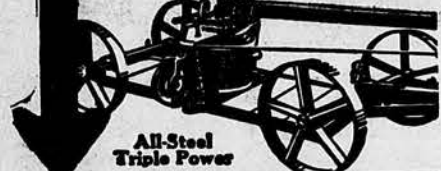
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Catalogue "K" Free. J. P. Spalding, A. M., Pres.

It pays in dollars and cents to give the  
cow extra care. The cow that is kept  
comfortable will give the best returns.



## Self-Feeders Profitable

A SELF-FEEDER like the ones used  
at the Kansas Experiment Station  
will cost \$20 to \$50 and will ac-  
commodate twenty hogs. Properly used  
a self-feeder will return a profit of \$33  
in 100 days. This statement is based  
on the results of an experiment con-  
ducted at the Kansas Experiment Sta-  
tion last summer and fall.

It was shown as a result of this test  
that the feed bill was smaller, while

cents per hundredweight or 50 cents per  
pig, in favor of the self-fed. Average  
market prices of feed were used. These  
pigs were farrowed late. With the same  
kind of feeding earlier spring pigs will  
allow the advantage in the earlier mar-  
ket prices.

The details of this comparison of  
hand-feeding with the self-feeder are  
shown in the table on this page.

While the saving of labor is one of

## Self-Feeder For Hogs Returns Profit

SIX PIGS FED IN EACH LOT—	LOT 1 Mixed	LOT 2 Free Choice	LOT 3 Mixed	LOT 4 Mixed
	Corn meal 70 Shorts 24 Tankage 6 Self-fed	Corn meal Shorts Tankage Bone ash Self-fed	Corn meal 70 Shorts 24 Tankage 6 Bone ash to appetite Hand-fed twice daily	Corn meal 40 Shorts 48 Tankage 12 Bone ash to appetite Hand-fed twice daily
Average initial weight.....	48.6	49.1	47	47.5
Days to gain 150 pounds per pig.....	99	91	132	125
Average daily gain per pig.....	1.51	1.64	1.13	1.20
Feed consumed daily per pig.....	5.64	6.11	4.86	4.82
Feed consumed per 100 lbs. gain.....	373	369	428	402
Cost of feed per 100 lbs. gain.....	\$6.04	\$5.92	\$6.93	\$6.60

Prices of Feeds: Corn meal \$1.60, Shorts \$1.45, Tankage \$2.55 per cwt.

labor was saved and the pigs were hur-  
ried to market.

The saving of labor and the hurrying  
of the pigs to market are two factors  
of profit which especially apply to the  
spring litters of pigs. The rush of sum-  
mer work and a declining fall market  
give sufficient evidence of these facts.  
During the last thirty years only four  
exceptions to a lower market in Decem-  
ber than in October have occurred on the  
Kansas City market. An average of the  
last five years shows a gradual decline  
from September until the close of the  
year.

In the tests referred to self-feeding  
and hand-feeding of pigs in the dry lot  
were compared. Rations of corn, shorts  
and tankage were fed to five lots of  
fifty-pound Duroc-Jersey pigs for suf-  
ficient periods of time to make an av-  
erage gain of 150 pounds per pig.

In a comparison of the results of the  
self-fed and hand-fed lots it was found  
that the self-fed pigs made 25 per cent  
faster gains and consumed 8 per cent  
less feed. In other words, they made  
their 150 pounds gain and were ready  
for market thirty-two days earlier with  
a saving of 99 cents per head on feed  
alone.

These pigs were started on feed July  
28. The self-fed pigs weighed 200  
pounds November 1, and would have sold  
for \$8.05 per hundredweight, while the  
hand-fed pigs weighed 200 pounds De-  
cember 3 and would have sold for \$7.80  
per hundredweight—a difference of 25

cents per hundredweight or 50 cents per  
pig, in favor of the self-fed. Average  
market prices of feed were used. These  
pigs were farrowed late. With the same  
kind of feeding earlier spring pigs will  
allow the advantage in the earlier mar-  
ket prices.

The average self-feeder built on the  
farm or offered on the market will ac-  
commodate about twenty head of hogs  
through a feeding period similar to the  
one in this experiment. With an advan-  
tage of \$1.65 per head, a balance of \$33  
may be credited to the self-feeder above  
the net returns from twenty hand-fed  
hogs.—C. M. VESTAL, K. S. A. C.

Do not let the pigs wean themselves.  
Take the sow away from the pigs when  
they are about ten or twelve weeks old  
and give her next litter a fair start in  
life. Take the sow away from the pigs  
and not the pigs from the sow. In this  
way the pigs will be left in their ac-  
customed lot and will be less likely to  
notice the change in their living condi-  
tions.

Shell the corn for the self-feeder and  
have a separate compartment for tank-  
age. If the pigs are pretty small, it  
will be advisable to provide middlings  
or shorts in addition.



SELF-FEEDER IN RAPE PATCH READY FOR THE HOGS.—THIS CROP PRODUCES  
A LARGE AMOUNT OF VALUABLE FORAGE

## Saves 2 Horses On the Binder

Weights Only 167 Lbs.



## Cushman Binder Engine

### For All Farm Work

The 4 H. P. Cushman is the original and  
successful Binder Engine. Thousands are in use  
every harvest—saving horseflesh and saving grain.

It saves a team, because engine operates  
sickle and all machinery of binder, leaving horses  
nothing to do but pull binder out of gear; also  
takes away side draft. Therefore, two horses easi-  
ly handle 8-foot binder in heavy grain.

It saves the grain, because it runs at uni-  
form, steady speed, putting grain on platform  
evenly, allowing platform and elevator canvas to  
deliver it to packers straight, and thus it is tied  
without loss, saving a large per cent of the nat-  
ural waste of binder.

It saves the crop in a wet season, because  
slipping of bull wheel or slowing up of team does  
not stop the sickle, and it never clogs. You can  
cut wet grain same as dry.

It saves time because you can move right  
along all the time in heavy grain without killing  
the horses, and with no choking of sickle, eleva-  
tors or packers.

It saves the binder, because it operates at  
same regular speed all the time—no jerking of  
machinery by quick stopping and starting of team or when  
bull wheel drops into a rut. That's what tears a binder to  
pieces. With a Cushman Engine your binder will last twice  
as long. Write for book with complete description.

CUSHMAN MOTOR WORKS, 822 N. 21st St. Lincoln, Neb.

## KENDALL'S SPAVIN TREATMENT

—has saved thousands of dollars  
and thousands of horses. The  
old reliable treatment for Spavin,  
Ringbone, Splint or Lameness.  
For sale at all druggists. Price  
\$1 per bottle, 6 for \$5. "Treatise on the Horse"  
free at druggists or write to Dr. B. J. KENDALL,  
COMPANY, Enosburg Falls, Vt., U. S. A.

## A SADDLE for \$36 Cash

Fourteen-inch swell front, 27-inch wool-lined  
skirt, 8-inch stirrup leathers, guaranteed, solid  
steel fork.

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## Build Your Own Mixer

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money either way. Prices \$11.50 up. We furnish free  
plans along with our iron parts so you can build your own  
mixer at small cost. Sheldon Patch Mixers save their  
action a single job. Ideal for farm use. Made by a fam-  
ous for farmers. Mix 2 1/2 cubic feet a minute. Keep  
1 to 2 men busy. Do work equal to \$400 mixers.

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PLANS  
Get Free Catalog and Special Offer  
Shows our full line of mixers and  
direct to you on strong guarantee. 30 days  
trial. Ten men wanted in every county right  
now to accept our special offer which will  
help you secure a machine at little or no  
cost. Big chance to make \$10 to \$20 a day  
concreting in your section. Write today.

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Mix Your Own Concrete

There are many orchards in Kansas  
where demonstration work in orchard  
management is being done, but none are  
more interesting than that in charge of  
the Dickinson County High School, lo-  
cated at Chapman. This orchard has  
been carefully pruned under the direc-  
tion of T. H. Parks, specialist in ento-  
mology in the extension division of the  
agricultural college, and will be sprayed  
four times during the season. The stu-  
dents of the high school are performing  
most of the actual work and the orchard  
thus becomes a class room or laboratory  
for training students, as well as a dem-  
onstration of proper methods in orchard  
management for the people of that com-  
munity.





## Feeding Laying Hens

IT IS too common a practice on Kansas farms to let the hens shift for themselves during the spring and summer, or, at most, to throw them a little grain. Birds fed in this way seldom give a profitable production the following fall and winter. In most cases it will be safest to feed a well balanced ration, excepting green feed, throughout the spring and summer as well as through the winter months; the amount is limited to the needs of the hens. All but the heaviest breeds will keep active, ranging for insects and tender shoots even when fed. They will, in fact, consume only so much of the ration furnished as is necessary to supplement the feed picked up. It is only stock that comes through the summer in good condition that can be expected to lay many winter eggs, because heavy egg production, and particularly winter egg production, is a severe drain on the vitality of hens.

A scratching feed composed of two of the most economical grains from Group 1 on page 11 of this circular is satisfactory. (These grains are corn, kafir, milo, oats, and wheat.) This feed should be changed as prices become extreme. A mash containing feeds in proportion similar to those below should be fed with the scratch feed:

Six pounds finely chopped corn chop, six pounds wheat bran, three pounds wheat shorts, two pounds commercial meat scrap.

If the birds have all the sour milk or buttermilk they care to drink the meat scrap may be cut to one pound. Oyster shell and grit should be kept before the birds continually.

The successful handling of hens depends as much upon how they are fed as upon what they are fed. Just as there are several good rations, so there are several routines of feeding that are equally satisfactory. The one suggested here has been used with excellent success in connection with the ration given above.

The first thing in the morning a light feed of grains is well scattered in a deep litter of straw, so that the birds will be compelled to work vigorously in scratching it out. This usually keeps the birds busy until between ten and eleven o'clock. At noon the self-feeding dry-mash hopper is opened and left open during the afternoon. If the birds are not running on pasture, as much green feed is given as they will clean up in a half hour. If mangels are used they should be split. At least two hours before sundown a liberal feed of grain is given. The birds should go to roost with full crops; therefore there is no objection to throwing down a little more grain than they will consume.

The proportion of about two pounds of scratch feed to one pound of mash should be maintained. However, when the hens are laying a large number of eggs they require more moist feed than when only a few eggs are laid. It is sometimes necessary to close the mash hopper or withhold the scratch feed in order to maintain these proportions.—Circular No. 60, Kansas Experiment Station, Manhattan.

### Forcing for Egg Production

When the object in feeding hens is heavy egg production, without expectation of using the fowls for future breeders, the forcing method is adopted. By this method the hens are kept in a small yard or house, and are given a ration which is high in egg-producing elements. By this method the reproductive system is worked to its highest capacity. It is seldom that a bird will be able to stand up under such feeding conditions for more than one season. This system of forcing is followed by large commercial egg plants, the object being to get the

greatest possible income from the hens in the shortest time.

The practice of the forcing method has given rise to the statement that the pullet year is the most profitable of the life of the hen. As the great majority of hens are kept on the general farms, where the production of eggs is merely a side line, forced feeding is not practical, the general plan being to allow the hens free range, and feeding them so as to produce only the normal amount of eggs. Cared for in this way, hens of the small egg breeds will produce nearly, but not quite, as many eggs the second season as the first. Those breeds which have a tendency to put on fat readily usually become unprofitable the second year.

Hens that are to be kept as breeders should never be given highly concentrated feeds. If this should be the case, the hens will not be in a good physical condition to produce the best of chicks.

### Poultry Conveniences

There are many conveniences that help out in poultry raising. In many cases these appliances can be made cheaply at home. Among these helps in handling poultry, Ross M. Sherwood, of the agricultural college poultry department, mentions the supply bin for feed, which saves going to the granary each time the chickens are fed. The size depends on the number of fowls. This bin may be of metal or wood, or even a tight barrel placed on the floor or on the wall would answer the purpose.

The self-feeder is used for feeding bone, mash or charcoal. This feeder has a sloping bottom and the feed slips down as fast as it is consumed. It is well to have it on a platform two feet high.

The feeding trough is used for moist mashes. This may be made of wood or metal. Often a V-shaped trough with slats across it is used. The only objection to wooden troughs is that milk sometimes gets in the cracks and causes poisonous molds to grow.

A water fountain may be made by taking a bucket, cutting a hole near the top, and setting it upside down in a pan. The top should not be flat, so that the chickens will perch on it and contaminate the water with droppings. The pan should be on a platform so that straw will not be scratched into it.

The devices for small chicks are nearly the same, except smaller. In the self-feeder, bone is used. A netting is placed over the feeding trough to keep the chicks from scratching the feed out.

### Breaking Up Broody Hens

Eliminate the expense of broody hens. Even the fowls have no right to sit and do nothing at a time when the country is facing so great a food shortage, says Ross M. Sherwood, acting head of the poultry department in the agricultural college.

He points out that the average hen lays four or five eggs a week, worth 12 to 15 cents at the present price of eggs. Hens should be "broken up" as soon as they become broody. If possible do not let them set over night, for a day saved in shutting them up may save two days of their laying period.

Broody hens should be placed in airy coops with slat bottoms and kept off the ground. Too frequently an ordinary box or tub is turned over them, and as a result they are almost as content to sit on the ground as they were on the nest.

It is a mistake to starve a broody hen. She should be well fed at this time so that she will be ready to lay when turned out. Avoid fattening the hen while breaking her up. Give a limited amount of grain and a liberal supply of milk and table scraps. Care should be taken to turn the hens out as soon as they are broken up.



## The Eyes of America Turned on Her Farmers

AT last the American farmer occupies his rightful place in the esteem of the world. Manufacturers, merchants, bankers and city dwellers of all kinds heretofore have taken their food for granted and have overlooked the man behind the plow—the man who feeds them.

Conditions today are such that the producer of foodstuffs is recognized as the mightiest force—not only in the welfare and prosperity of the nations of the world but in the very existence of nations and their peoples.

A noticeable feature of the situation, which has shown the American farmer to be on a high moral plane as well as holding an important industrial place is the fact that he has not taken advantage of conditions to extort unreasonable prices from his fellow Americans. He has patriotically increased his production in order to prevent famine prices instead of keeping production down to force prices up.

He has shamed the food speculator—though unfortunately his example has not been followed by all manufacturers—particularly among the makers of so-called luxuries; though

many big manufacturers in this country have followed the farmer's lead.

One of the most noticeable cases among those who have kept faith is that of the makers of Coca-Cola. In spite of the enormously high price of cane sugar—the principal ingredient of Coca-Cola—and in spite of the higher cost of its other ingredients the Coca-Cola Company have not raised the price to consumers nor lowered the quality of that delicious and refreshing beverage one iota. Like the farmers they have kept faith with the people to their own cost.

Perhaps the lessons of fair-dealing and helpfulness that the heads of that institution learned as boys on the farm (for they are products of the soil) have strengthened them to stand firm in this crisis. So let us remember that the beverage Coca-Cola, known as the National Beverage because of its great popularity, has proved itself indeed national by doing its bit to keep down the cost of living.



### 2 Plows

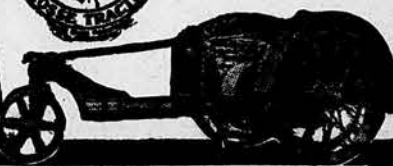


### PRAIRIE DOG TRACTOR

**Makes Work a Pleasure.** Early plowing conserves moisture and increases crops. The greater profit will pay for a Prairie Dog Tractor. Works in any weather. Does not mind the heat—never tires. Pulls two 14-inch plows under ordinary conditions at 2 1/2 miles per hour. 20 H.P. Waukesha Motor for belt work. Speed on high for road work, 7 to 10 miles per hour. Saves time, makes work pleasant. High quality—low price. Write for catalog and special offer to reliable farmers.

K. C. HAY PRESS CO., Kansas City, Mo.

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### LOW PRICE—GREAT VALUE

SO low in first cost and upkeep that any farmer can afford to buy one or more. Simple in construction—with highest quality materials. Only 3/4 the parts used by other tractors, 88% of weight on two drive wheels.

**Write for Catalog** La Crosse Happy Farmer Tractors are now doing great work in farmers' fields. Model "A" pulls 2 or 3 plows—1500 lbs. guaranteed drawbar pull—16 h. p. on all belt work—extremely light and simple. Use gasoline or kerosene. Model "B"—12-24 h. p. guaranteed—weighs only 2700 lbs. Many exclusive features. Burns kerosene perfectly—Hyatt Roller Bearings throughout. We have a distributor in your territory for prompt service. Write for catalog. Also get literature on the La Crosse Happy Farmer line of tractor-drawn implements.

MODEL "A"  
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\$585.00

MODEL "B"  
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ADVERTISING PAGE FOR READY BARGAINS



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Six weeks' training in our school will make a more efficient milliner of you than a year spent as an apprentice elsewhere, and nine weeks finishes our pupils for constructing, copying and trimming hats.

Classes beginning June 3, June 24, July 16.

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## WHEN YOU BUILD BUILD PERMANENTLY

The Humboldt Hollow Tile Silo or Barn will last forever. It is the last thing in Silo and Barn Construction.

### Economical, Fire-Proof, Indestructible

Hollow Tile Silos will cost no more than one-piece fir stave silos. The Humboldt Tile Barn will cost very little more than a frame barn, and you have permanency. No shrinking or swelling, warping or twisting, no rotting. Needs no paint. Extremes of heat and cold, moisture or dryness will not affect this wonderful construction.

### Stands Like a Rock

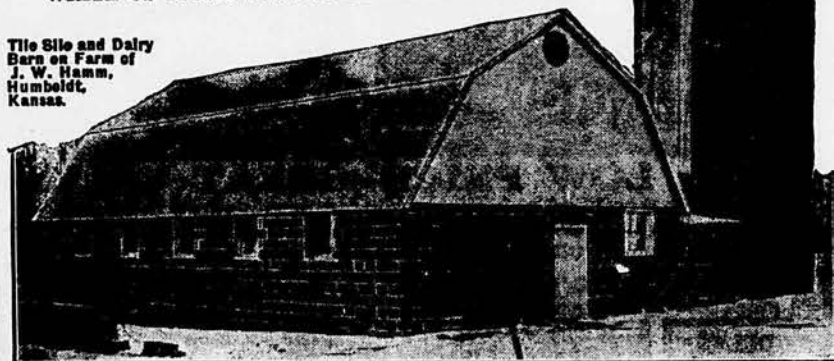
Hollow Tile is fire-proof because the tiles are made of shale, burned with natural gas to a temperature of 2,000 degrees.

### Perfect Silo and Barn Construction

This is indestructible and is many permanent features make the Humboldt Hollow Tile Silos and Barns the cheapest that money can buy. Everlasting strength makes a lasting improvement for any farm. Our silos are tried and proven and in constant use at the Kansas Agricultural College at Manhattan, and the Oklahoma Agricultural College at Stillwater, and among hundreds of the permanent farmers and stockmen in the country. We refer you to any of them for reference on our silos.

LET US FIGURE ON BUILDING  
A SILO OR BARN FOR YOU  
WRITE US TODAY FOR COMPLETE LITERATURE.

Tile Silo and Dairy  
Barn on Farm of  
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Makers of Brick, Drain Tile, Silos, Tile for Churches, School Houses, Store Buildings, Residences, Barns, Farm Buildings of All Kinds.

MENTION KANSAS FARMER WHEN YOU WRITE.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

In washing woolen blankets all water used should be of the same temperature and the best results will come from the use of lukewarm water. A mild white soap should be used and should be dissolved in water to which has been added a little borax—about two tablespoonfuls to a large cake of soap. The blankets should not be rubbed or twisted, but squeezed through the hands. All soap should be removed by careful rinsing through several waters and a little bluing should be added to the last rinse water. If the soap is left in the blankets they will become hard and will shrink. The wringer should be set loose for wringing the blankets. They should be hung over the line double and should not be dried in the sun nor in too cold air. Frost will shrink the fiber and sunlight will burn white wool. After drying the blankets can be made light and fluffy by gentle brushing.

### State Extension Schools

Kansas communities expecting to take advantage of the state extension schools offered by the extension division of the Kansas Agricultural College for next fall and winter, should begin at once making arrangements for securing one of these schools.

Only thirty-two of the extension schools in agriculture and home economics can be held during the season 1917-18—from November 1 to March 1. A petition signed by no less than fifteen responsible citizens who promise to have an interest in the school and work for its success, and who guarantee the money necessary for local expenses, should be sent to the Extension Division, Kansas Agricultural College.

Best results are obtained in the community where all local organizations cooperate in promoting the school.

The money guaranteed by the petitioners is used for local expenses only, such as necessary supplies for use in the school work, transporting speakers and equipment from and to railroad station, and for the hotel bill of the four representatives sent from the agricul-

tural college. Salaries of these men and women and their railroad fares are paid by the college from money appropriated for this purpose. A fund of not less than \$75 must be on deposit in a local bank when the school opens, which may be drawn upon by the local committee as designated by the college representative in charge of the school. This fund usually more than takes care of the expenses of the school and any money left goes back to the committee to be used for paying premiums on grain, live stock or household products, or for prizes in contests in connection with the extension school, such as stock or grain judging, sewing, baking, etc.

This fund can be raised by sale of season tickets to the school, which should bring one dollar apiece, and by sale of tickets to adults not holding season tickets, for the two evening entertainment programs given in connection with the school.

Courses offered for men are soil fertility, farm crops, animal husbandry, dairying, horticulture and entomology, live stock sanitation and animal diseases, farm management and rural economics, any two of which will be given. There is a first year and second year course for women in foods, shelter and management, and clothing. Four instructors—two women and two men—conduct each school of five days.

Two well-lighted rooms must be provided by the community for the school.

Further information regarding these extension schools may be secured by writing the Extension Division, Kansas Agricultural College, Manhattan.

### Refinishing Soft Wood Floors

The following treatment for old floors is recommended by W. H. Ball, assistant in woodwork at the Kansas Agricultural College:

"Raw linseed oil is the most satisfactory dressing for soft wood floors. It is more nearly water-proof than any other oil. Hard wood dressing should not be used.

"Clean the floor thoroughly. If it has

## Young Gardener and His Equipment

FOR two years Lester McDaniel has captured about all the garden prizes offered for garden club work around Wichita. We hope boys in that section will give Lester plenty of stiff competition this year. Last year in the garden contests conducted by the Wichita Y. M. C. A. in co-operation with the United States Department of Agriculture, Lester won \$49 in cash prizes on the different kinds of vegetables from his garden and in addition various merchandise prizes offered by the business men of Wichita valued at \$67.40. He fairly earned the title of "Garden King" of Southern Kansas, which was given him by State Club Leader Otis E. Hall. Lester did nothing that cannot be done by other boys, and we predict that he will have to work hard to retain his laurels this year. The cut shows him with the tools he used.





been painted, a good paint remover should be used. Heat the oil not to exceed 180 degrees, and after removing from the fire add a little turpentine, not more than five per cent, which causes the oil to penetrate into the wood more readily and improves the wearing qualities. A coat of good floor wax may be applied over the oil if a polish is desired, and rubbed with a woolen cloth or weighted floor mop.

"For darkening, Van Dyke brown, burnt umber, or some other dark color may be added to the oil although the oil tends to darken the floor. A common paint brush may be used to apply the oil, and care should be taken to spread it smoothly. Do not allow the oil to puddle as it will dry on the surface and will peel off or produce glossy spots. One gallon of oil will cover from 500 to 700 square feet with one coat, depending upon the condition of the floor and the amount of wear. It is well to apply two coats in the beginning and renew with a coat once a year.

"A common method of treating old floors in bad condition is to use a good floor paint after the floor has been cleaned. A dark color such as brown, produced by burnt umber, or such neutral colors as will harmonize with the color scheme of the room should be used. It is not advisable to use a cheap varnish as it is not permanent.

"If it is desired to bring out the grain of the wood the floor should be stained the color chosen and then from two to three coats of good floor varnish should be applied. Shellac is sometimes used for the first or priming coat as the cost is from one-third to one-half that of varnish, but it is not recommended for permanent results. In no case should shellac be used exclusively on a floor as it has a tendency to scar and peel off."

By placing a tuck in the hem of a child's wash dress, it will be an easy matter to lengthen the skirt when the child has outgrown it. The tuck should be run in by hand.

## FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7928—Ladies' Waist: Cut in sizes 36 to 42 inches bust measure. The waist shown in the picture is a new style; the back and a front yoke are in one piece—other interesting features being a high collar wired at back and cut away at front, gathered fronts, novelty in the pearl button closing, and a fancy cuff button trimmed to which a full-length sleeve is gathered. No. 8180—Children's Dress: Cut in sizes 2, 4, 6 and 8 years. Any girl's enthusiasm is bound to get the better of her when mother makes her frock like this. The waist is on plain lines, has front closing and is finished at the neck with a cape collar of contrasting goods. A one-piece gathered skirt allows freedom of movement necessary for the comfort and happiness of a lively child. No. 8169—Ladies' Russian Blouse: Cut in sizes 34 to 42 inches bust measure. Here is style in a Russian blouse that will immediately be hailed as a triumph. It is cut with panel effect full length front and back, the upper parts of the fronts being gathered to shoulder yokes and the lower part plaited at the sides. No. 8154—Ladies' Dress: Cut in sizes 34 to 42 inches bust measure. With all the newest details to cause one to look at it twice, this model shows lines promising an enormous amount of comfort and telling that the dress is practical for indoors and smart enough too for street wear. A separate belt with front strip and side tabs does duty at normal waistline. No. 8166—Ladies' Plaited Skirt: Cut in sizes 24 to 32 inches waist measure. If interested in current styles in separate skirts, you are sure to take note of this design—a model cut in six gores and having left side front closing. Front and back are in broad panel effect and the side sections are laid in plaits. A raised waistline is used, but a separate belt with side tabs for novelty is added. No. 8141—Ladies' Dress: Cut in sizes 36 to 42 inches bust measure. The style of the moment is expressed by the long, loose lines of this frock—a one-piece model with left side front closing. A plait is made at each seam where the side sections are joined to back and front, with full-length panel resulting. To each side of the back the girdle of satin is stitched and brought around to tie and drape at front.

## Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 60,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order. SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

### REAL ESTATE.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, Deak C. Chippewa Falls, Wisconsin.

EIGHTY ACRES IRRIGATION LAND, San Luis Valley, Colorado, for sale. Henschel, Smith Center, Kansas.

FOR SALE—A FEW GOOD FARMS AND Western Kansas wheat land. Rogers Land Co., 528 East Douglas, Wichita, Kansas.

FARM AND PROPERTY WANTED EVERYWHERE. If you want to sell, try me. One per cent commission after sale. If you want to buy, get my Farm Journal. Hahr's Farm Agency, 800 Broad St., Newark, N. J.

### HORSES AND MULES.

FOR SALE—BAY SHETLAND PONY, weight 500 pounds; buggy, harness, \$75.00. John Seybold, 114 E. Eighth, Topeka.

JACK FOR SALE OR TRADE—FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilsen, Eureka, Kansas.

### BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal in America and has the largest circulation in America. It shows how \$100 grows to \$2,200. Write now and I'll send it six months free. H. L. Barber, 431.28 W. Jackson Boulevard, Chicago.

### CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES FROM TESTED dams. Blue Label Stock Farm, Route 5, Whitewater, Wisconsin.

FOR SALE—ONE REGISTERED SHORTHORN bull, thirteen months. John Thorne, Kinsley, Kansas.

GUERNSEY COW COMING THREE years old, registered, well bred, good type, desirable. J. W. Marley, Oswego, Kansas.

FOR SALE—FOUR REGISTERED HOLSTEIN male calves. One large enough for service. Also a few grade heifers. F. E. Proctor, Oswego, Kansas.

CALVES — HOLSTEINS, SHORTHORNS and Guernseys. A few specially fine ones, \$12.50 to \$25. For catalog write Ed Howey, South St. Paul, Minn.

REGISTERED GUERNSEY BULL calves for sale. Sire's dam has official record 613 pounds butter. R. C. Krueger, Burlington, Kansas.

FOR SALE—TWO REGISTERED GALLOWAY bulls, also two grades, all two years old; in good breeding condition, priced cheap for quick action. J. F. Winter, Emmett, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for \$23 apiece. Frank M. Hawes, Whitewater, Wis.

HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, \$18 each, crated for shipment. Also one pure-bred heifer, three months old, \$75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

### LUMBER.

LUMBER, MILLWORK, FENCE POSTS—Wholesale mill prices. Send carpenter's list for freight prepaid estimate. Keystone Lumber Company, Tacoma, Washington.

### TREES, SEEDS AND PLANTS.

ALFALFA SEED FROM NORTHWEST Kansas, 95% pure, good germination, \$5.50 per bushel. Geo. Bowman, Logan, Kansas.

WE SAVE YOU MONEY ON ALL FOREIGN crops, seeds and seed corn. Write at once for samples and prices. Watson Bros. Seed Merchants, Milan, Missouri.

CABBAGE AND TOMATO PLANTS: Offer fine large plants and quick shipment. Our plants are growing in 3,000 towns. Tomato for canning offer Greater Baltimore and Red Rock, the variety used by Van Camp, Rider and all the Giant Canneries, also Chalk's Jewel, Matchless, New Stone, Favorite, Paragon and Dwarf Champion Tree varieties. 100, 49c; 200, 79c; 500, \$1.25; 1,000, \$2.00, prepaid. Cabbage plants: Surehead, Charleston, Jersey, Winningstadt, Copenhagen, Flatdutch, Allseasons, 100, 49c; 200, 65c; 500, \$1; 1,000, \$1.50, prepaid. We can ship quick. Cabbage bringing \$200 ton. No order too large. None too small. Ozark Seed & Plant Co., Nashville, Arkansas.

### HELP WANTED.

FARMERS WANTED—\$75 MONTH. MEN and women. U. S. Government jobs. War means hundreds vacancies. Common sense education sufficient. Write immediately for list positions obtainable. Franklin Institute, Dept. C-32, Rochester, New York.

### DOGS.

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

### THRESHING MACHINES.

FOR SALE—AN AVERY GAS THRESHING and plow outfit. Address J. E. Wallace, Route 4, Abilene, Kansas.

### HOGS.

CHOICE DUROC JERSEY BOAR PIGS—Farmer prices. Best of breeding. Chester McWilson, Rice, Kansas.

### WANTED

WANTED—REGISTERED PERCHERON mare. Give details, description, price. Fred Perkins, Oswego, Kansas.

### THE STRAY LIST.

TAKEN UP—BY ROY WEHLGEHAGEN, of Dudley Township, Haskell County, Kansas, on April 28, 1917, one stray horse, color black, age two years. Branded with an open A. And the said Roy Wehlgehagen, the taker-up, resides in Dudley Township, said county. His post office address is Sautana, Haskell County, Kansas. A. R. Henage, County Clerk.

### SITUATION WANTED.

MARRIED MAN WITH WIFE AND ONE child wants steady work on farm. Address N. S., care Kansas Farmer.

### Real Estate For Sale

360 ACRES CREEK BOTTOM FARM. 160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; \$5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only \$45 per acre. M. T. SPONG — FREDONIA, KAN.

30 ACRES, 2 miles business center McAlester, city 15,000. 24 a. fine black dry bottom; 12 a. cult. \$50 per a., terms. SOUTHERN REALTY CO., McAlester, Okla.

### If We Could Know

At a church meeting in Cleveland, Ohio, recently, the speaker gave the replies of nineteen men to the question: "What I wish I had known before I was twenty-one years old." These are the nineteen answers:

What I was going to do for a living—what my life work would be.

That my health after thirty depended, in a large degree, on what I ate before I was twenty-one.

How to take care of my money.

The commercial asset of being neatly and sensibly dressed.

That a man's habits are mighty hard to change after he is twenty-one.

That a harvest depends upon the seed sown—wheat produces wheat, thistles bring forth thistles, ragweeds will spoil a good pasture, and wild oats once sown will surely produce all kinds of misery and unhappiness.

That things worth while require time, patience and work.

That you can't get something for nothing.

That the world would give me just about what I deserved.

That by the sweat of my brow would I earn my bread.

That a thorough education not only pays better wages than hard labor, but it brings the best of everything else.

The value of absolute truthfulness in everything.

The greatness of the opportunity of joy of serving a fellow man.—The Irish World.

That my father wasn't such an old foggy after all; if I had done as he wished I would be very much better off physically, mentally and morally.



# Reliable Poultry Breeders

## PLYMOUTH ROCKS.

WHITE ROCK EGGS, \$4 PER HUNDRED. Nora Lamaster, Hallowell, Kansas.

BARRED PLYMOUTH ROCKS—FARM-bred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, \$4.25 per hundred. Ear: Summa, Dept. G, Gentry, Missouri.

BARRED ROCKS—CHAMPION LAYERS and weathers. Eggs, fifteen, \$1; hundred, \$6. J. M. Jarvis, Newton, Kansas.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, \$1; fifty, \$3; hundred, \$5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

WHITE ROCKS—PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, \$4. F. F. Richter, Hillsboro, Kansas.

PURE BARRED ROCK EGGS—FARM range, \$1 per fifteen, \$5 per hundred. Mrs. H. Buchanan, Abilene, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BARRED ROCKS—SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." Prices eggs reduced after May 10, No. 1 either mating, \$2, fifteen; \$3.50, thirty; \$10 hundred. Mrs. Iver Christenson, Jamestown, Missouri.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, \$3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

## RHODE ISLAND REDS.

SINGLE COMB RED EGGS, GOOD FARM range, \$4 per hundred; \$1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, \$2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, \$3 and \$2 per fifteen; \$5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing \$15 to \$50. Fifteen eggs, \$2.50; thirty eggs, \$4; fifty eggs, \$6. Fine pure-bred range stock, \$5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

## ANCONAS.

S. C. ANCONA EGGS, \$5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SEND FOR MY "ANCONA DOPE" AT once. Tells why I quit all other breeds. It's free and worth reading. Fill orders for eggs promptly. Page's Ancona Farm, Salina, Kansas.

## DUCKS AND GEESE.

BUFF DUCKS—WINNERS WITH EGG record. Eggs, \$1.50 per thirteen. Mrs. J. H. Wood, Solomon, Kansas.

## BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. Request folder. McCune Hatchery, Ottawa, Kansas.

## ORPINGTONS.

FINE GOLDDUST BUFF ORPINGTONS—Eggs, \$1.50 setting; \$8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

CEDARELL POULTRY FARM—S. C. Buff Orpingtons exclusively, bred for size, color and eggs. \$1 per sixteen, \$5 per hundred. Martha Brown, Parkerville, Kansas.

## SEVERAL BREEDS.

BARRED AND BUFF ROCKS—SINGLE Comb White Leghorns. Fawn and Penciled Runner Ducks. Eggs—Fifteen, \$1; hundred, \$6, from range flocks. J. T. Rickman, Kiowa, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, \$5 per hundred, \$1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

## TURKEYS.

BOURBON RED TURKEY EGGS—TWO-year-old hen, 40-pound tom. \$3 setting. S. Feltier, Concordia, Kansas.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, \$1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

## LANGSHANS.

GET MY FREE MATING LIST OF MADISON Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

## MINORCAS.

SINGLE COMB BLACK MINORCA EGGS, \$5 hundred; \$1 setting. Claud Hamilton, Garnett, Kansas.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, \$3 and \$2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, \$2; pen No. 2, \$1.50 for fifteen eggs, \$8 per hundred. W. F. Fulton, Waterville, Kansas.

## WHITE LEGHORNS

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. \$4 per hundred, \$7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

## WYANDOTTES.

WHITE WYANDOTTES—EGGS FROM choice stock, \$1.80, thirty; \$5, hundred. Mrs. Will Beightel, Holton, Kansas.

WHITE WYANDOTTE EGGS—STOCK from (Fishes World Best Direct) \$2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

CHOICE ROSE COMB SILVER WYANDOTTE eggs, \$1 for 15; \$5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYANDOTTES. Eggs—Fifteen, \$1.50; fifty, \$3.50; hundred, \$6. Mrs. Edwin Shuff, Plevna, Kan.

WHITE WYANDOTTE EGGS, ONE DOLLAR for fifteen. Four-fifty per hundred. Geo. Tuls, Fredonia, Kansas.

IF YOU WANT THE BEST SILVER Wyandottes, Barred Rocks or White Crested Black Polish breeding stock or eggs, write to William Nellers, Box 2, Cascade, Iowa.

## LEGHORNS.

TIP TOP ROSE COMB BROWN LEGHORN eggs. J. E. Wright, Wilmore, Kan.

R. C. W. LEGHORN EGGS, \$4 PER HUNDRED. Mrs. Henry Apking, Bruning, Neb.

FOR SALE—BROWN LEGHORN HENS. E. Rathbun, Lucas, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

PURE-BRED ROSE COMB WHITE LEGHORNS. Eggs for hatching; forty-five, \$2; one hundred, \$4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, \$1.25; 100, \$5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

## PHEASANTS.

PHEASANTS—DEMAND UNLIMITED for Ringnecks this spring at \$5 to \$8 pair. Booking orders. Eggs of these, \$4 dozen; Golden, \$5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

## FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor  
W. J. Cody, Manager Stock Advertising.  
O. W. Devine, Representative

Address All Communications to  
Kansas Farmer, and Not to  
Individuals

Personal mail may have to be held  
for several days, or be delayed in  
forwarding, and Kansas Farmer  
cannot assume any responsibility  
for mistakes occurring thereby

## CLAIM SALE DATES.

Jerseys.  
May 31—R. J. Linscott, Holton, Kansas.  
June 26—J. H. Lomax, St. Joseph, Mo.  
Sale at farm near Leona, Kansas.

Double Standard Polled Durhams.  
June 8—Ed Stegell, Straight Creek, Kan.

Poland Chinas.  
Aug. 15—H. L. Faulkner, Jamesport, Mo.  
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo.  
Sale at farm near Leona, Kansas.  
Oct. 5—U. S. Byrne, Saxton, Mo.  
Oct. 16—H. B. Walter & Son, Effingham, Kansas.

At the sale of Hereford cattle held May 16 at Kentland, Indiana, by Warren T. McCray, the average for seventy-five head of Herefords was \$1,750. Martin Fairfax, a bull, sold to George Fuller, of Saskatchewan, Canada, for \$17,000, the top price. The top price on females was \$5,000, which Frank Fox, of Indianapolis, paid for Mousel's Express. Bulls in the sale averaged \$2,381 a head; cows, \$1,435.

Max J. Kennedy, of Fredonia, Kansas, is the owner of one of the heavy producing

herds of Holsteins in Kansas. This herd is made up of choice individuals, representatives of families backed by a long line of records. The breeding of his herd is of the best. A feature of the herd at this time is the choice lot of young stock of record breeding.

John Linn & Son, of Manhattan, Kansas, own one of the good herds of Ayrshire cattle in Kansas. They now have twenty-five cows and heifers in their herd, headed by Elizabeth's Good Gift, whose dam was the world's record cow in 1913, having made a record of 15,122 pounds milk and 526 pounds butter fat as a three-year-old. His sire's first daughters are making an average of 1,200 pounds milk and 400 pounds butter fat as two-year-olds. Lady Fearn of Oakdale, a two-year-old cow in the herd, has a thirty-day butter fat record of fifty pounds. Euphemia of Oakdale, a mature cow, has a thirty-day butter fat record of seventy-one pounds. Alta Drummond of seventy-one pounds, a mature cow, made a thirty-day milk record of 1,650 pounds and a butter fat record of sixty-five pounds. Susie May Pender, a three-year-old, is now milking fifty pounds per day. They have ten head on test at the present time.

Poland Chinas should be strongly represented at the fairs this fall. Fourteen thousand dollars in cash prizes, besides it is now expected that several states will be visited with "white herds," costing in the aggregate of \$3,000 per head. The prize money is divided as follows: Seventeen state futurity shows, \$600 per show. In the states of Ohio, Nebraska, Kansas, California, Iowa, Indiana, Illinois, Missouri, Oregon, Montana, South Dakota, Minnesota, Wisconsin, Oklahoma, Idaho, Texas, Memphis Tri-State National Swine Show, Omaha, Neb., October 3-10, 1917. Two thousand dollars in the open classes, and \$1,000 in the National Round-Up Futurity. About \$800 is given to pig clubs and other extension work.

Catalogs are out for Ed Stegell's Polled Durham sale to be held at Straight Creek, Kansas, June 8. This sale will be of unusual interest to Polled Durham breeders for the reason that the famous Polled Durham bull, True Sultan, with twenty of his sons and daughters, will be included in the offering, and about the same number of cows with calves at foot or safe in calf by the great prize winner. At six different shows in 1916 True Sultan and his get were awarded 119 prizes, including twenty-five championships and grand championships. The offering includes the aged show herds, a young herd and a calf herd, all in first class condition to go on the fall show circuit.

The sale of the Benton Gabbert herd of Hereford cattle at Dearborn, Missouri, May 11, dispersed one of the oldest herds of that breed of cattle in America. The foundation of this famous herd was laid thirty-five years ago. The seventy-five head catalogued sold for an average of \$525. Twelve bulls sold for an average of \$622. The sixty-three females sold for an average of \$505 per head. Beau Gomez, purchased by Gabbert & Son at the H. D. Cornish dispersion sale for \$4,000, sold for \$3,900. R. M. McNeel, of Marietta, Georgia, being the purchaser. The offering was widely distributed. A large percentage of the cattle went to breeders in Missouri, Illinois, Georgia, Kentucky, Kansas, Nebraska, Texas and Oregon.

George C. Tredick, of Kingman, Kansas, owner of the Tredick Herd of Holsteins, reports a good demand for Holsteins that are bred for production. Mr. Tredick has a line of breeding in his herd that has contributed largely to the fame of Holsteins as producers.

T. R. Maurer & Company, of Emporia, Kansas, report their Holstein herd doing well and a lively demand for high class

Holsteins. This firm owns one of the good herds in Kansas. They have a line of record breeding that insures profitable Holsteins.

D. J. White, of Edgewood Farm, Clements, Kansas, reports his herd of registered Angus cattle doing fine. Mr. Clements owns one of the outstanding good Angus herds in Kansas. The popular Angus families are all represented in his herd and he is breeding the profitable type. A feature of his herd at this time is the fine lot of young stock, including a fine lot of yearling bulls.

J. P. Mast, of Scranton, Kansas, reports his Holstein herd making a good record again this year. Mr. Mast has built up one of the great producing herds in the West. His herd is drawn upon heavily for breeding stock and many good producing herds in the Southwest were started with foundation stock from this herd.

Geo. W. Ela, of Valley Falls, Kansas, one of the live boosters for Hampshire hogs in Kansas, reports his herd of pure-bred Hampshires doing fine. Mr. Ela, who is secretary of the Kansas Hampshire Breeders' Association, has recently organized a boys' pig club of twenty members and will start them in the Hampshire business with pigs from his herd. A feature of Mr. Ela's herd at this time is the choice lot of fall boars and gilts and a very fine lot of spring pigs.

## New Books

"Vegetable Growing," by Boyle, is the title of a book recently published by Lea & Fabiger, Philadelphia. It covers the whole subject of vegetable growing, both from the standpoint of home use and production on a field scale. It is a valuable book to anyone growing vegetables. Locating and planning the garden, seed supply, garden tools, insect and disease control, classification of vegetables, and vegetable storage are some of the chapter titles. The book sells for \$2.25.

The Macmillan Company has just added to the Rural Science series a book entitled "The Potato," by A. W. Hilbert, professor of plant breeding at Cornell University. It is intended to give brief, practical suggestions on the growing, breeding and marketing of potatoes. It is written especially for practical men who wish concise information on potato growing but do not have the time to go through all the miscellaneous sources of information, and especially expert station bulletins, in search for this information. This book sells for \$1.50.

"A History of the Percheron Horse," by A. H. Sanders, is a new book just published by the Breeders' Gazette that should be in the hands of every breeder of Percherons. Probably no one is more competent than Mr. Sanders to prepare such a book. It includes hitherto unpublished data concerning the origin and development of the modern type of heavy draft horse, drawn from authentic documents. Mr. Sanders' own personal recollections of the American Percheron traces goes back to his boyhood, his father, James H. Sanders, having been one of the earliest introducers of Percheron blood in the country west of the Mississippi and compiler of the initial volumes of the Percheron Stud Book of America. This book is a distinct addition to the literature of the Percheron breed. It is printed on high-grade paper and contains many illustrations.

"Agricultural Entomology," by Osborn, is the title of another Lea & Fabiger publication that meets the need of students and others who wish to learn something of insect life in its relation to farm crops and live stock. It is fully illustrated and while the author has assumed that his readers will have some technical knowledge of plant and insect life, the book is of value to the general reader.

## Fly Campaign in Order

From now until freezing weather comes again we should fight flies systematically. Those who have made a study of disease carriers, tell us that the fly has no equal as a germ carrier and that five hundred million germs have been found in and on the body of one fly. This statement shows the importance of killing the first fly and every other one that makes its appearance. For every fly killed now there will be innumerable less flies later in the season.

The most effective step in a fly campaign is the destruction of their breeding places. Flies breed in filth and where there is filth flies are sure to be found in great numbers. If they remained in the filth they would not be dangerous to life, but they soon leave their early home, carrying with them much of this filth and depositing it wherever they stop,—on the food we eat, on the baby's mouth, or other places where these disease germs will thrive and do their destructive work.

Clean premises, meaning nothing left out in the open that will attract flies, is the first step in a fly campaign, and the killing of any that do come, is the next step.

The Federal Government suggests formaldehyde and sodium salicylate as the two best poisons, both being superior to arsenic. These poisons attract flies, they are convenient to handle and are not poison to children. Three teaspoon-

fuls of concentrated formaldehyde solution, which is commercially known as formalin, should be used to a pint of water, or three teaspoonfuls of the pure chemical sodium salicylate, which is a powder, to the same amount of water. Fill or partly fill an ordinary drinking glass with either of these solutions, place over the glass a piece of blotting paper and on top of this a saucer or small plate. Next invert the glass and plate and place a match between the glass and the blotting paper. As the solution dries out of the saucer the liquid seal is broken and more flows into the saucer or plate. By this means the blotting paper is kept continually moist.

There are many odors which are pleasing to people which are equally unpleasant to flies and these can be used in freeing the house of this pest. A little oil of lavender mixed with the same quantity of water and sprayed around the room, will drive out the flies. The odor of geranium, mignonette, heliotrope and white clover, is also disliked by flies. When using any of these an opening through which the flies can leave the room, should be left.

The mixture of cream, ground black pepper and brown sugar, is poisonous to flies. One tablespoonful of each of these, mixed in a saucer and set in a window that is left light in a darkened room, will attract the flies and kill them. Flies that are killed in the house should always be burned.



A PRIZE WINNING POLLED DURHAM SALE.

# The Champion "True Sultan" And His Got All At Auction

8 Miles North of Holton

## Straight Creek, Kans., Friday, June 8

### 37 Females---10 Bulls

TWENTY SONS AND DAUGHTERS OF THE GRAND CHAMPION.

TWENTY COWS WITH CALVES AT FOOT OR SAFE IN CALF BY HIM.

This sale will offer to buyers an opportunity to secure either an aged show herd headed by the Champion True Sultan, or a young herd, sired by him, headed by the senior yearling, Sultan's Conqueror. All are nicely fitted and in prime condition to carry on the fall shows. The show records of this herd, during the past few years, have marked it as one of the strongest collections of hornless Shorthorns in the Middle West. The entire lot of show cattle is selling. The cows with calves at foot are in good breeding condition and merit the attention of those looking for the best.

Write today for a sale catalog. Address

## ED. STEGELIN, STRAIGHT CREEK, KANSAS

Auctioneers—Col. Duncan, Col. Price and Col. McFadden.

## EDGEWOOD FARM

REGISTERED ANGUS BULLS.

HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.

D. J. White, Clements, Kansas

## ANGUS CATTLE

## Aberdeen-Angus Bargains

Fourteen richly-bred heifers, good individuals, low down, blocky, easy-feeding kind. Very best blood lines. Bargain price, \$1,600 for the lot, f.o.b. Salisbury, if taken at once. Also two young bulls priced right. Thirteen years a breeder.

V. E. LAWRENCE, SALISBURY, MISSOURI

## SHORTHORN CATTLE.

## 25 Shorthorn Bulls

Reds and roans. Pure Scotch and Scotch-topped yearling bulls at farmer prices. Farm at Pearl. Ship over Rock Island, Santa Fe, Union Pacific and Missouri. Pacific. Come and see me.

C. W. TAYLOR, Abilene, Kan.  
Dickinson County.

## 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

**SPRING CREEK SHORTHORNS**  
Headed by the great sire, Orange Goods. Best families represented in herd, good individuals. Choice young stock for sale.

THOS. MURPHY &amp; SONS, Corbin, Kansas.

**TWO SHORTHORN BULLS.** One herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation. S. C. White Leghorn eggs.

R. C. WATSON - ALTOONA, KANSAS

## Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.

A. L. HARRIS - OSAGE CITY, KANSAS

## ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflies, Queen of Beautys and Violets. Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

## DUROC JERSEYS.

## MAPLEWOOD DUROCS

Fifteen serviceable boars for sale, sired by Gelmon's Good-E-Nuff. First choice, \$35, f.o.b. Herington, Kansas.

MOTT &amp; SEABORN, HERINGTON, KAN.

**LONE TREE DUROC FARM**  
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarax, Model Top and Good Enough Again King blood lines. Spring pigs, two for \$35.00, three for \$45.00; not related.

GEO. J. BURKE, LITTLE RIVER, KANSAS

## BERKSHIRE HOGS.

**KING'S BERKSHIRES**—Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

## POLAND CHINAS

**BAZANT'S Famous Spotted Poland Chinas**  
Two hundred March pigs for sale on approval. All to be recorded free in the S. P. C. Record Association. Average in litter, nine. Can sell boar and four gilts not related. All sired by three of the best boars in the West. Pigs out of 600 and 700-pound mature dams. I can start you in the business. Address

R. J. Bazant, Narka, Kansas

(Republic County.)

Ship over the Rock Island and Burlington Railroads.

## OLD ORIGINAL SPOTTED POLANDS

Have only a few of last fall's litters left. Write your wants to

THE CEDAR ROW STOCK FARM

A. S. Alexander, Prop. R. 2, Burlington, Kan.

## PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

L. C. WALBRIDGE - RUSSELL, KANSAS

## POLAND CHINA HOGS 150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

## TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right.

CHAS. E. GREENE, Peabody, Kan.

## POLAND CHINA BOARS

Twelve September boars, large husky fellows ready for service. Sired by Big Bob King. Write at once.

DR. J. H. LOMAX

Station D St. Joseph, Missouri

## BIG-TYPE POLANDS AND DUROCS

Booking orders for weaning time. Pigs, \$25 each; trios, \$50. Will make 700 to 1,000-pound hogs. Two hundred to select from. Top breeding.

O. W. LONG, Route 3, Maitland, Missouri.

Langford's Spotted Poland. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed.

T. T. LANGFORD &amp; SONS, Jamesport, Missouri

## HAVE PICTURES TAKEN FOR ADVERTISING

HARRY SPURLING OF TAYLORVILLE, ILLINOIS.

## THE LIVE STOCK ARTIST

Starts on a trip west, May 21. Write at once to home address. Letters will be forwarded. All work guaranteed.

## HOLSTEIN CATTLE.

## HOLSTEIN CATTLE.

## MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.

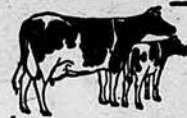
T. R. MAURER &amp; CO.

EMPORIA, KANSAS

## PECK'S HOLSTEINS

We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.

M. E. PECK &amp; SON, SALINA, KANSAS



## Purebred Registered HOLSTEIN CATTLE

All records for butterfat production in 365 days, not only Holstein-Friesian but those of all other breeds, were broken in 1916 by the registered pure-bred Holstein cow, Duchess Skylark Ormsby 124514, when she produced 27,781 pounds of milk containing 1,205.09 pounds of butterfat. The test was made under the supervision of the Minnesota Agricultural College, thirteen different supervisors being employed. This wonderful cow freshened at the age of 3 years and 3 days. Holstein cows as a rule milk longer and produce much larger quantities of milk than any other breed, a fact that has made them the choice of progressive dairymen everywhere.

Send for FREE Illustrated Descriptive Booklets.

The Holstein-Friesian Association of America

F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

## TREDICO HOLSTEIN BULLS

A. R. O. dams. A tested bull.

One cow even made it 12 months after calving.

GEO. C. TREDICK

Route 2 Kingman, Kansas

## GREENSWARD HOLSTEINS.

Choice bull calves, heifers, cows. Registered and best breeding. Herd tuberculin tested. We are breeders, not dealers.

MAX J. KENNEDY, FREDONIA, KANSAS

## JERSEY CATTLE.

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

## Breeders' Directory

## ANGUS CATTLE.

D. J. White, Clements, Kan.

## RED POLLED CATTLE.

Mahlon Greenmiller, Pomona, Kansas.

## JERSEY CATTLE.

J. B. Porter &amp; Son, Mayetta, Kan.

## DORSET HORN SHEEP

H. C. LaTourette, Route 2, Oberlin, Kan.

## CHESTER WHITE HOGS

**CHESTER WHITE** Cholera Immune Gilts, bred to farrow in June, July and August. The good kind. For price, breeding, etc., write Emil Youngberg, Route 3, Essex, Iowa

## FOR SALE

Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

## PURE-BRED O. I. C. PIGS, April 3 Farrow.

Boars, \$15.00.

JOE FOX - GREELEY, KANSAS

## POLLED DURHAM CATTLE.

**FOR SALE**—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.

D. C. VAN NICE - RICHLAND, KANSAS

(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

## AYRSHIRE CATTLE.

## RIVERSIDE AYRSHIRES

Most profitable dairy cow. Herd headed by a son of August Lassie, the 4-year-old champion. Young animals, both sexes, for sale. J. F. Converse & Co., Woodville, N. Y.

## LINDALE FARM AYRSHIRES

Three choice bull calves for sale. Their dams are on A. R. test. Write for particulars. Visitors always welcome.

JOHN LINN &amp; SON, MANHATTAN, KAN.

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**Jas. T. McCulloch** Live Stock Auctioneer. I make sales anywhere.

Write for date. CLAY CENTER, KANSAS

## LESTER E. HAMILTON

Live Stock Auctioneer

Write for terms and date. Clarksdale, Mo.

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**PERCHERONS, BELGIANS, SHIRES.** Ten stallions ready for heavy work; also yearlings and two. Young fillies, also mares with colts by side and bred again. All registered. One hundred individuals of first rank for sale.

FRED CHANDLER, R. 7, Charlton, Iowa

Just above Kansas City

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

## Butter Bred Holsteins

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

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## CEDAR LAKE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound record cow, Cornadyke.

T. M. EWING, INDEPENDENCE, KANSAS

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Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.

H. D. BURGER, Route 2, SENECA, KANSAS

## High Grade Holstein Calves

12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, \$18 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARMS, WAUWATOSA, WISCONSIN

**Holstein and Guernsey Calves**—Both sexes, 5 weeks old, nicely marked, fawn and white and black and white, mostly 15-16ths pure. \$20 each, crated for shipment anywhere. Satisfaction guaranteed.

Edgewood Farms - Whitewater, Wisconsin

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

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Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

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Very high grade heifer calves, five weeks old, nicely marked, \$23 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

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Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

W. C. SCHROEDER - WEST BEND, WIS.

## Shady Brook Holsteins

A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.

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Five to six weeks old, nearly pure, well marked, \$20, express paid.

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With De Kol-Netherland-Korndyke main blood lines, and Johanna Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

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## 120 Jersey Cows and Heifers

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

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

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## GALLOWAY BULLS

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

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## HALCYON HERD HAMPSHIRE HOGS

Best breeding, best type. Stock for sale. GEO. W. ELA, Valley Falls, Kansas



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Your hogs are in constant danger from cholera, pneumonia, worms, indigestion and other diseases. High pressure feeding tests their digestion and other vital organs to the limit and makes them easy victims to death-dealing germs. They are in daily need of health-promoting medicines which will enable them to resist disease and insure the biggest results at lowest feed cost.

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Contains powdered gentian root, sulphur of iron, bi-carbonate of soda, sulphur, carbonized peat, quassia, charcoal and pure dairy salt. These medicines are as carefully compounded as a physician's prescription, according to a formula scientifically worked out by chemists of the highest standing.

Any reputable veterinarian will tell you that these ingredients constitute an unfailing worm destroyer, keep the stomach and bowels in order, stimulate the digestive process, promote healthy activity of kidneys and liver—an effective blood purifier and general conditioner.

The solid brick form in which these medicines are combined preserves their full strength until the last particle is eaten. Also makes it economical to feed—no waste. After your hogs have satisfied their first craving, they will consume only limited quantities from time to time as they feel the need of the medicines. *Cheaper than the ordinary stock powders, stock feeds, etc.*

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Carey-ized Stock Tonic Brick will do all we claim for it and we are willing to take all the risk of a 30-day fair test by you in your own hog lot.

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Dept. 256

**Carey Salt Company, Hutchinson, Kan.**

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Department 256  
Hutchinson, Kansas.

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