

KANSAS FARMER

For the improvement



of the Farm and Home



Volume 54, Number ~~23~~ 24 TOPEKA, KANSAS, JUNE 10, 1916.

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—W. A. Cochel



W. A. COCHEL
Professor of Animal Husbandry
Kansas State Agricultural College

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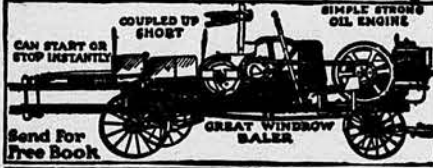
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FARM POWER

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

IF AN engine is run on any of the heavier fuel oils, much more carbon is formed in the cylinder than when run on gasoline. However, there is always some deposit of carbon upon the piston head and on the cylinder walls. Some of this works its way to the piston rings and may so clog the grooves as to hold the rings fast. Should one or two rings be thus stuck even only at one point, the leakage of gases will destroy the compression. If the compression is found to be bad or lacking and the valves have been tried and they are not leaky, then the piston must be removed and the grooves and rings examined, cleaned and well oiled. Should the rings be badly worn, one of all may be replaced. The ring must fit snugly into the groove yet be so loose that it will not stick at any point when pressed into the groove. Rings are sometimes bent so they do not spring out and fill the cylinder. This might be caused by overheating the engine, especially if the ring is stuck in the piston at the time.

Should it be necessary to remove the cylinder-head, a new gasket will very likely be necessary. When such a gasket can be obtained from the manufacturer it is very good. It is not an exceedingly difficult task to cut one. Sheet asbestos is the best form of gasket because it is very thin, but on this account it should be handled with care. To cut a gasket, place a sheet of the packing upon the cylinder or cylinder head and with a ball peen hammer tap it down over the edges, thus cutting it off. Cut out the bolt holes and openings for the water jacket in the same way.

Plenty of lubricating oil will usually prevent sticking of the rings. Only a small quantity of oil regularly applied is sufficient. This oil also improves compression by filling the cracks between cylinder, piston and rings.—E. R. Gross, Colorado.

New Idea in Carbureter

Automobiles, traction, and all classes of stationary engines, through change of carbureters, can be run on kerosene, solar oil, or distillates, says W. H. Sanders, instructor in farm motors at the Kansas Agricultural College.

The engines which are now using gasoline can be made to run on any one of the oils mentioned above provided the fuel is not heavier than 39 degrees Baume, and the right kind of carbureter is used. Recent experiments have given conclusive proof as to the practicability of the new discovery.

When the present carbureters are modified, the engines which are now using gasoline will be adapted to burn other fuel. The utilization of heat is necessary where the gaseous mixture is sprayed in the air current feeding the engine. This is not so difficult as one might think at first. The heat of the exhaust gases, which is usually thrown away at once, is employed in this process to heat the particular part of the carbureter and not preheat either the fuel or the air used.

This practice of preheating the air or the fuel, before mixing the two together in the carbureter, has been used with varying success for a number of years. The chief drawback to the preheating of the air is that less weight of air is introduced into the engine than when the air was colder and more dense.

In any given weight of air there is about 23 per cent of oxygen. As oxygen alone supports combustion, it therefore follows that the heat resulting from combustion must depend absolutely on the amount of oxygen in a given volume in the cylinder. This quantity of oxygen determines the quantity of heat which must be used in each cylinder full of explosive material.

Heated air, if free to expand, will occupy greater space than cold air. Hence the heated air must of necessity be lighter and contain less oxygen for any given volume. Consequently any unnecessary heat, which is absorbed by the air before it is allowed to enter the cylinder, will produce less power for each explosion than if colder and more dense air was used.

The type of carbureter that enabled the use of other fuel than gasoline, attempts to add just enough heat to the mixture of air and fuel to prepare it properly for introduction into the cylinder at as low a temperature as possible.

thus insuring the production of the largest amount of heat available from any given volume of mixture that can be introduced into the engine.

It has also been found desirable to introduce some mechanical device which will divert the current of air and gas mixture directly against the wall of this highly heated part of the carbureter. The particular device has the appearance of a small wind mill with slanting blades. It is stationary in the carbureter. All of the air and gas mixture must pass by the blades of the "wind mill." The slope of the vane gives a whirling motion to the air as it passes through it. The motion tends, by a centrifugal force, to throw any liquid fuel present in this air current against the outside walls of the carbureter. The heat that raises the temperature of the highly heated portion of the carbureter which surrounds this spot instantly flashes the liquid fuel into a permanent gas. The gas in turn is thoroughly mixed with the air on its passage from this part of the carbureter into the engine cylinder.

Little of the air current has been heated by coming in contact with the hot wall of the cylinder, for practically all the heat available from this source has been used to change the fuel from a liquid into a gas without raising the temperature to any extent.

A four cylinder machine equipped with such a carbureter runs perfectly while idling. The conclusion is that some action or reaction takes place in this heating process similar to that of the new Rittman process of manufacturing gasoline.

The difference in the price between gasoline selling at 20 cents, and kerosene at 8 cents, indicates the economy of installing some kind of carbureter, embodying the principles spoken of, on every engine possible. The cost of these carbureters is about the same as that of the best up-to-date gasoline carbureters.

The experiment here at the college with one of these new carbureters, seems to indicate that the same amount of power can be obtained from kerosene as is derived from its equivalent weight of gasoline. Heretofore this has not been possible while using heavy oil unless it were burned in engines of the Diesel type.

As the excessive weight of the Diesel type of engine would preclude its use for automobile service, or even for light traction engines, it does not seem possible that we can ever hope to get efficient service from kerosene or distillates, says Mr. Sanders. The next thing appears to be the installation of the kind of carbureter that will handle kerosene and distillates in the common types of engines and lower the price of their operation.—B. K. BAGHDIGIAN.

Engineering at Manhattan

Many people do not appreciate the fact that in spite of its name, the Agricultural College of Kansas was founded to teach mechanic arts as well as agriculture. Its engineering division has equipment which compares favorably with that of the best engineering schools in the country, and with its highly trained and experienced corps of teachers, is capable of giving every opportunity to young men of Kansas who wish to make engineering their life work.

It offers four-year courses in civil engineering, electrical engineering, mechanical engineering, highway engineering, agricultural engineering and architecture. To take up any of these engineering courses the person must be a graduate of a standard high school or must satisfy entrance requirements equivalent to a high school education.

The value of the equipment in the laboratories, shops and designing rooms used purely for instruction of engineering students is greater than \$150,000.

To clean headlight mirrors, use some jeweler's rouge or whiting, applying with a moistened cloth and rubbing dry with another cloth. This procedure will not scratch the mirrors and will give them a highly polished surface.

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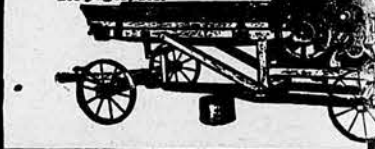
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KANSAS FARMER

The Standard Farm Paper of Kansas

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T. A. BORMAN, Editor-in-Chief

G. C. WHEELER, Live Stock Editor

Editorial, Advertising and Business Offices — Topeka, Kansas
New York Office, 381 Fourth Ave., Wallace C. Richardson, Inc., Manager
Chicago Office, Advertising Building, Geo. W. Herbert, Inc., Manager

Entered at the Topeka post office as second class matter



MIRACLE WHEAT OLD DELUSION

The most exaggerated claims have been made from time to time for new varieties of wheat. As early as 1807 the so-called Jerusalem Wheat was being exploited, and now under the name of Alaska Wheat, this same variety is being sold to the unwary at exorbitant prices. Almost equally exaggerated claims have been made for the Stoner variety or Miracle Wheat.

Because of these many attempts to defraud farmers, the Federal Department of Agriculture has investigated some of these wheat varieties and has just published a bulletin entitled "Alaska and Stoner or Miracle Wheats—Two Varieties Much Misrepresented." The findings of this bulletin are being given considerable publicity in many papers at the present time.

KANSAS FARMER was led to investigate the claims of this variety known as "Miracle" wheat over two years ago as a result of the extravagant claims that were being made for it. As a result farmers were warned to be cautious in taking up the new variety. Last summer, knowing that the Federal Department had been testing these varieties, we again sought to obtain the latest possible information and in our issue of August 21, 1915, made the following statements on our editorial page:

"KANSAS FARMER has no desire or object in preventing the introduction of new and improved varieties of any agricultural crop, but we feel it our duty to our many readers to warn them against taking up a new variety until there is no question as to its merit and adaptability. We maintain experiment stations to try out these new things, and until these trials have been carefully made no farmer is justified in buying seed of some new and wonderfully described variety at greatly inflated prices.

"What is known as Miracle Wheat comes in this class of new and extravagantly exploited varieties. We have secured all the information possible about this particular variety for the reason that it has been described as being so phenomenal in its yields. We found that its milling qualities had been determined by the milling department of the Kansas Agricultural College two years ago. In this respect it is on a par with other varieties of soft wheat, such as Fulcaster. While some excellent yields have been reported by some who have grown this new variety, they are by no means phenomenal and could easily be accounted for by early plowing, careful preparation of seed bed, and an especially favorable season."

We then gave in detail the results secured in the Federal Department of Agriculture tests that had been made covering a period of three years and which figures are now given in the bulletin just issued. We secured this information and gave it to our readers last August because it could not reach them through the government bulletin for almost a year. Both Mr. Ball and Mr. Leighty of the Federal Department, were glad to furnish the facts in advance of the publication of the bulletin because of the importance of giving farmers interested the real truth about this much-exploited wheat in advance of last year's seeding.

It is apparent from these tests that this particular variety has nothing special to commend it. It is better than some that have been tested, but is surpassed by others. Most assuredly there is no reason for demanding unusual prices for the seed.

The fame of Kansas' hard winter wheat has spread all over the country and it would certainly be a serious mistake to introduce any variety of soft wheat into the principal wheat-growing sections of the state. The improving of the better strains of hard winter wheat is well worth while, and already much progress has been made by our Kansas Experiment Station along this line. Several better varieties of hard wheat are now being given field trials in different parts of the state.

If any of our readers wish to have full detailed information regarding the Miracle or Alaska wheat, we would sug-

gest that they write to the Department of Agriculture for the bulletin referred to above.

LEGUMES IN ROTATION

All the corn-producing counties of Eastern Kansas have decreased in acre yields of this crop, or at least this has been found to be true wherever any statistical studies have been made. The depletion of the organic matter in the soil is the most important factor in causing this reduction in yield. Decaying vegetation is essential to the maintenance of soil fertility, and where no systematic effort has been made to return vegetation to the soil, it has steadily decreased in productive power.

Professor L. E. Call of the Kansas Agricultural College, says the most noticeable declines in corn yields have taken place in those counties where alfalfa has not been successfully grown on account of soil acidity. This is an indication of the need for legumes in the crop rotation. Where alfalfa cannot be made to grow, cowpeas, soy beans or sweet clover should by all means constitute an important part of the rotation.

The spreading of barnyard manure, with the plowing under of green manure crops and especially legumes, will build up the soil and enable it to produce crops as it did when first plowed. Old soils are always low in nitrogen, and the cheapest way to supply this is in the form of decaying vegetation. The legumes contain much more nitrogen than do other plants and therefore these can be depended upon in supplying the nitrogen required.

Vegetation added to the soil in the form of green manure not only furnishes the nitrogen required as it decays, but also greatly improves the physical character of the soil. We cannot urge too strongly the necessity for plowing under green manure crops and other vegetable matter and the legumes should always be included because of the abundant supply of nitrogen they contain.

HESSIAN FLY CONTROL

Turn the ground early and deep and destroy all volunteer wheat, has been the advice given time and time again by the entomologists of our experiment station, for controlling the Hessian fly. It seems as though no one pays much attention to this kind of advice until the loss becomes so great that it is a serious matter from the standpoint of crop returns. When the pocketbook begins to suffer as it does when Hessian fly damage increases and when the wheat grower realizes his helplessness in attempting to raise wheat in fly-infested territory, the carefully worked out plans of the entomologists are given more serious attention.

The Hessian fly can be controlled. This has been conclusively established, but it requires co-operative effort in the doing of the things necessary. This year Reno County has been hard hit by this pest, but some of the best wheat in the county is found where the tractor plowing demonstration was held last July. Over this whole area the land was all plowed immediately following harvest. It was not only plowed early, but was plowed deeper than it had been for several years past. An examination of the wheat on this land shows that it is in healthy condition and that there are but few flies. If all wheat farmers would plow wheat stubble early and deep and destroy all volunteer wheat, the fly would soon cease to be a menace. The land that is to be held for corn should be plowed as well as that to be re-sown to wheat.

Wheat farmers in fly-infested territory cannot continue to ignore this pest. Some big wheat farmers are proposing the plan of discontinuing the growing of wheat for a year or two in order to starve out the fly. This remedy would be of little avail unless everyone quit raising wheat. A few fields here and there would carry the fly along from year to year. It would be easier to secure co-operation in the matter of early plowing and the destruction of volunteer wheat than in the discontinuing of growing wheat altogether.

The tractor is a great help in doing

at the proper time the large amount of plowing necessary. Lack of power is responsible in many cases for delaying this heavy work. The wheat grower requires a great deal of power to get his work done at the proper time. It is impractical to keep enough horses on hand to do all the work when it should be done. They would be eating their heads off during the remainder of the year. Even the tractor owner finds it necessary to use his engine for as many jobs as possible during the year to make it pay. No class of farmers can make better use of the tractor than can wheat farmers, but it will be a great advantage to have the farming sufficiently diversified in character to distribute the labor throughout the year.

The wheat farmer in fly-infested sections might just as well make up his mind that he must do his plowing early and be in a position to destroy all volunteer wheat if he would continue to raise wheat profitably.

CORN CULTIVATION

The making of a good corn crop is largely a matter of rainfall during July and August. In other words, without enough moisture in the ground during the period in which the ears are shooting and filling, there cannot be a large yield. The same is true to some extent of the grain sorghums, only these crops can stand still and wait for moisture while corn must have it at exactly the right time or there can be no large yields.

While it seems as though so much depends on the weather during July and August, the corn grower cannot afford to be so much of a fatalist as to let the weeds grow and choke out his crop. Weeds are robbers, taking both moisture and plant food that should go to the crop. The work being done at the present time by the best corn farmers has for its purpose the killing of the weeds and grass now springing up in the corn rows. The two-row disk cultivators are being hurried through the fields as rapidly as possible, yet not so hurriedly as to do poor work in killing and covering the germinating weeds.

After this cultivation with the disk, listed corn can usually be cultivated with the ordinary shovel cultivators two or three times with profit. Surface-planted corn may profitably be gone over from three to six times with the shovel cultivator. Many tests have been conducted to determine how often corn can profitably be cultivated. In the recent bulletin from the Kansas Experiment Station on the growing of corn, it is stated that too frequent cultivation, especially when the soil is dry, may do more harm than good. Very few farmers, however, are going to find time to cultivate corn more often than it is required. By keeping in mind that killing weeds is the primary object of cultivation there will not be much danger of stirring the soil unnecessarily.

OPPORTUNITIES IN FARMING

This is what the president of one of America's leading universities has to say about the opportunities for pleasure and profit in farming:

"Unless a boy has a deep-seated preference for some other profession, it does not seem to me wise for him to ignore the great opportunities that agriculture offers, whether he was born in the country or in the city.

"In my opinion, no other occupation offers so rich rewards, all things considered, as agriculture offers to those who are willing to train themselves for it as earnestly and intelligently as they would train themselves for law or medicine.

"If a boy will put the same amount of time and study into his training for agriculture that he would put into his training for law or medicine, he will in the greater majority of cases make more money, enjoy greater freedom, better health, and develop stronger character."

It costs \$8.16 to feed a mule colt for 130 days, according to a test made at the Kansas Fort Hays Branch Experiment Station. This includes feed and veterinarian's services.

KEEPING HOGS HEALTHY

There can be little profit in pork production unless the hogs are kept healthy. Disease takes heavy toll of the hog industry. On another page of this issue is an article on sanitation and the prevention of disease that is well worth careful reading. Prevention is worth a great deal more than cure, and every hog grower will find it to his interest to do everything possible to keep disease germs of all kinds from gaining a foothold.

The most dreaded disease of hogs is cholera. The losses from this exceed those of all other diseases combined. Some few hog men maintain that it is possible to avoid even this disease by carrying out the most strict sanitary measures. Fortunately, we now have the serum treatment which is a sure preventative when properly used. Many hog growers, however, have been depending entirely too much on the serum treatment, assuming that if they vaccinated their hogs it was not necessary to be so particular in carrying out the various sanitary precautions. This is a mistake. Proper sanitation is of the greatest importance. Even when serum is used, bad results will follow from unsanitary surroundings.

The article referred to emphasizes the sanitary side in the prevention of hog diseases, and while the author makes no mention of the use of hog cholera serum the omission is no indication that he is attempting to show that hogs can be protected by sanitation alone. Sanitation with vaccination, when conditions make it necessary, will keep hogs from having cholera, and we would urge that all hog growers apply all the sanitary measures possible in handling their herds.

MORE LABOR ON CORN CROP

We can remember when it was the practice to give corn not more than three cultivations. The most forehanded farmer was the one who could rush through his corn and complete the third cultivation at the earliest possible date.

When land was low in price and corn was bringing only twenty or thirty cents a bushel, the amount of labor that could be profitably expended in cultivation was less than at the present time. The corn grower can now consistently put in considerable more time in cultivating and caring for his crop than in the days of cheap land and low-priced corn. It is simply a matter of good business. The extra bushels of corn that might be produced by putting a little more expense into the crop are worth so much more now that the margin of profit on the labor is considerably wider than in the days of cheap corn. We wonder if our corn growers recognize this business principle.

With our modern tools, such as the two-row cultivator, it is possible to do a great deal more work than when the old type tools were used. Some of our corn growers find it pays to go through the crop even after it gets so high that only a single horse can be used between the rows. Corn cultivation has become a more particular job and the old way of going through a certain number of times has been superseded by a much more carefully worked out system.

The primary purpose of all cultivation is to kill weeds and the method that will keep the corn clean with the least expenditure of labor and the least injury to the roots of the crop, is the one to adopt.

K. S. A. C. COMMENCEMENT.

Over 300 young men and women will graduate from the Kansas Agricultural College next week. The present indications are that more former graduates will be in attendance than at any previous commencement. The commencement address, "The Value of Land," will be given by P. P. Claxton, U. S. Commissioner of Education, Washington, D. C. The hour set for this is ten o'clock Thursday morning. This will be followed by a dinner given by the alumni in Nichols Gymnasium for the 1916 class, visiting graduates, and invited guests.

KEEPING HOGS HEALTHY

Practical Information for the Prevention and Treatment of Diseases of the Hog

By FRANCIS E. PREWITT

A SHORT time ago one of the men interested with me in raising hogs, wrote me the following:

"I wish you would send us some medicines commonly used for treating diseases of hogs. I do not know what they should be, but the veterinary book always says to give something that we have not got and it takes time to drive five miles and back to get it."

This inquiry started me to thinking on this subject, as this is the same condition that one finds in depending upon books written for home treatment of diseases in the human family.

The hog raiser is usually untrained in the prevention and treatment of diseases and what he needs is something to go by that is plain and practical and uncomplicated; and in the treatment of diseases he needs instruction in the use of a few reliable remedies that can be kept on hand all of the time, and that will meet the ordinary conditions or diseases that he has to contend with in his herd. He also should have the danger signals pointed out to him so that he will realize when it is time to call a veterinarian.

With these ideas in my mind, I wrote the following for the use of my associates on my farm, and others interested in growing hogs:

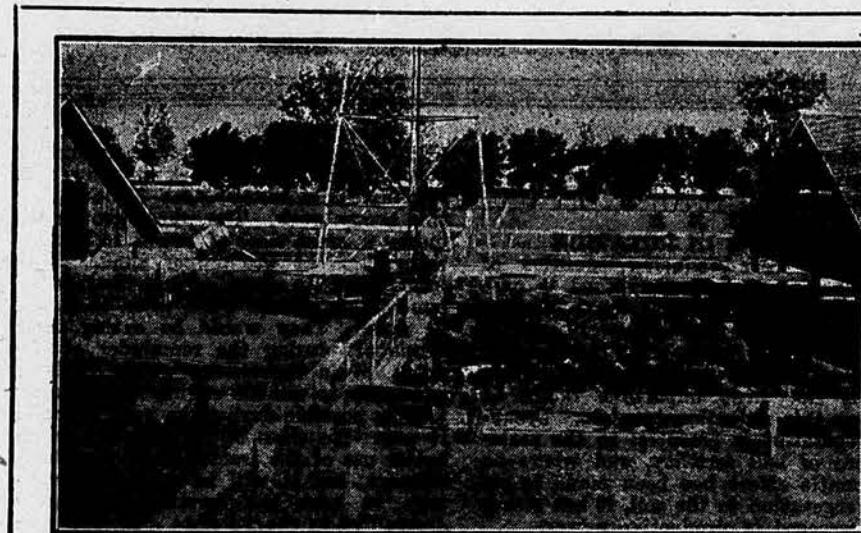
In swine, as in human beings, prevention of diseases is to be given more consideration than treatment of diseases, always bearing in mind the old adage that "an ounce of prevention is worth a pound of cure," but in my mind the ratio in this adage is wrong, as an ounce of prevention is worth at least a ton of cure, and I believe the person who originally wrote the adage would agree with me and change the ratio, if he had ever been called upon to help handle an epidemic to which the human race or swine herd is heir.

USE OF DISINFECTANTS

Prevention is largely accomplished by having all houses, pens and places frequented by the hogs kept in a sanitary condition. To do this, keep their beds changed often and burn up the straw or whatever material is used in making them. Spray their beds, sleeping quarters, pens and places in which they congregate with antiseptics very frequently and keep them well aired and opened up so the sun will shine on them. Do not forget that fresh air and sunshine are the cheapest and best germicides at our command. All hogs, beds, pens and places they frequent should be sprayed at least twice a week and if there is any suspicion of an epidemic among your own hogs or those of your neighbors, the spraying should be done daily until all doubt has passed. If you have a sick hog in the quarantine pen, everything should be sprayed each day. Wash all feeding floors and troughs frequently, and keep them well aired and sunned. Also spray your troughs and feeding floors with an antiseptic solution. Spray all granaries, buildings, etc., connected with your hog operations with the antiseptic, but keep the spray off the hay and grain, as it might poison the animals that eat it. In spraying hogs with the solution, be careful not to get it into their eyes, as it would be very painful to them and might cause their eyes to get sore, or even cause them to lose their sight, but be equally careful to spray it into their ears, if possible, as the ears are always favorite hiding places for lice.

Keep your granaries well aired and sunned, as it helps to prevent deterioration of your feed. Clean up all manure and rubbish, such as straw and corn cobs, frequently, and haul it away or burn it, as it would be sure to contaminate the feed if left around. The best use to make of the corn cobs is to pile them up, pour kerosene over them, set them afire and, when they are aglow, have a couple of barrels of very salty water at hand to put out the fire. This will make a salty charcoal, which the hogs will eat with a relish and it will sweeten their stomachs and intestines and improve their digestion.

Keep condition powders constantly before the hogs, where it will not get wet or blow away, and if they will not eat it straight, mix it with some ground grain, either dry or wet, preferably dry. Feed the condition powders to the small pigs just as soon as they will begin to eat slop or ground grain. The condition powder will keep their bowels open and their digestive tracts sweetened, to say nothing of aiding their appetites and digestion. Keep salt accessible to all of your hogs constantly. Put it where it



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will not get rained on or full of dirt.

USE OILER TO KILL LICE

Vermis is a frequent cause of disease in hogs, as it weakens them and keeps them thin and stunted, making their resistance to diseases low. To prevent the various vermin bothering hogs, have hog oilers, either the patent kind or home made, and keep them filled or covered with crude oil, gas oil, kerosene or other medicated oils. To make a home made hog oiler or scratching post: Set one post in the ground deeply and leave it ten to twelve inches above the ground; set another post in the ground twelve feet away and leave it two feet above the ground. Bolt a 4x4x14 on top of these two posts securely and then wrap the 4x4 and posts with a liberal layer of burlap sacks and either secure the burlap with fence staples or malleable wire and then keep the burlap soaked with one of the above oils. There should be several of these oiling devices on the premises, sufficient to easily accommodate all hogs and in convenient places for them.

Do not allow the hogs to get constipated, particularly the young, growing pigs. The pigs are more apt to get constipated and their stomachs deranged than a mature hog. This is because the alimentary canal is growing rapidly and is not so perfectly formed as it is in a grown hog, and a growing animal has a more voracious appetite than a mature animal.

A large percentage of hogs are afflicted with intestinal worms. They lower a hog's vitality and resistance to diseases. The best preventive is the

directions given herein for cleanliness around the premises.

PROVIDE QUARANTINE PENS

Whenever you have sick hogs in the quarantine pens, they should be cleaned daily and all bedding changed and thoroughly sprayed.

Quarantine houses and pens should be built on an isolated part of the premises, where the hogs seldom go, and, if possible, to the side of the farm to which water flows, in order to prevent the possibility of water washing infection down to your hog houses and pens. The fences of the quarantine pens should be at least five feet high, boarded up tightly and battened, and if the outside hogs persist in going around the quarantine quarters, run a wire fence around it to keep them away.

Keep a pair of overshoes at your quarantine house and wear them when you are working around it and take them off and leave them there when you are ready to leave. This keeps you from carrying infection away on your shoes to other parts of the premises. It might be a wise precaution to also have a pair of overalls to put on over your clothes while working around the quarantine pen and take them off and leave them there after you are through with your work there, for the same reason.

PROVIDE PURE WATER

Drinking water is one of the most important points to deal with, relative to prevention of diseases. Never allow swine to drink river water, as it is very apt to carry infection. Try and arrange to give them pump water exclusively, as water is practically free from infection that has percolated through

the gravel and earth for a short distance. Do not allow hogs to graze on a field or pasture for several days after it has been irrigated with river or surface water, as the water is liable to leave germs on the vegetation and ground. After several days exposure to the wind and sun, the germs left by the water will likely be killed.

You should have a cement wallow, located at a convenient point on the premises, so the hogs can make frequent use of it, and so situated that it can be easily filled with fresh water and emptied by simply turning a cock and draining it out through a pipe placed in the bottom of the wallow. It should be filled with fresh water at least once a week and an antiseptic stirred into it. This should be kept filled all of the time and changed weekly, as above stated, during weather when it will not freeze. This wallow should have a board shed over it, so as to encourage hogs to lie in it during hot weather. This helps to keep the hogs clean and keeps flies, mosquitoes, lice and other pests from disturbing them.

WATCH FOR DISEASE CARRIERS

You should have a shotgun convenient and shoot birds that come around your feeding pens, as they are apt to carry infection from farm to farm. This also applies to stray dogs, cats, chickens, or any common carrier.

I would not encourage people to visit my hog quarters, especially those engaged in hog raising, as there is a great deal of danger of them carrying infection on their shoes. It might be a very wise and economical precaution to have several pairs of overshoes on the premises and insist on visitors to your hog pens putting on a pair of them and wearing them while walking around through the pens and hog houses. These shoes should be sprayed, aired and sunned frequently and especially after having been worn by some visitor, in order to kill any germs left in them from the visitor's shoes. This might seem useless and foolish to anyone uninformed in regard to the transmission of germs, but anyone informed on the subject would realize that it is highly important and quite reasonable.

Whenever a hog, or any animal, dies, it should be burned. If it is buried, it might be dug up by dogs or birds and disease germs scattered over the premises. In order to burn a dead hog, pile up some logs, place the carcass on the logs and pour kerosene over the carcass and logs and set it afire and see that it is entirely burnt up. Slash it with a knife in various places and the grease will run out and make it burn easier.

Spoilt grain and other damaged feed, irregular and over feeding, will also cause stomach and bowel troubles.

Exercise and a well balanced ration are quite necessary to keep hogs healthy. Never confine a hog in a pen or house, if possible to let it run in a field.

Never buy grain or other feed in a community where there are sick hogs, or where the hogs in the community have been sick for a year past.

Always quarantine any hogs that are brought on the premises for thirty days, to allow any disease they might have to develop. Dip them in an antiseptic solution when they first arrive and before turning them out among the hogs.

Never feed the carcass of any dead animal to hogs. Burn it.

Never keep an unthrifty hog on the premises. Either dispose of it, or kill and burn it. Its vitality is low and it might contract some disease and transmit it to your herd.

The price of freedom from hog diseases is eternal vigilance in sanitation and hygiene and care in preventing diseases from being brought on your premises by common carriers. What would it avail you to carry out strict sanitation and hygiene and allow a disease to be brought to your premises by a person, or stray animal, or bird?

The dressing percentage of animals of different kinds varies widely. This is due to the amount of flesh and fat present on the carcass and somewhat to the thickness of the hide and size of the heads and legs, and to the amount of fill or the amount of feed and water present in the digestive tract at the time of slaughtering. For hogs the dressing percentage varies from 65 to 85 per cent with an average of 75. For cattle it ranges from 48 to 70 per cent, with an average of 53, and for sheep from 44 to 56 per cent with an average of 48 per cent.

MAKE use of all of the sunlight and fresh air around the quarters possible, as they are the best germ-destroying agents you have at your command.

Keep all rubbish and manure cleaned up and hauled away or burned. Keep all houses, floors, places frequented by the hogs, and the hogs themselves, sprayed at least twice a week, or oftener, if disease is in the neighborhood.

Keep the feeding floors and troughs clean and sprayed often and also well aired and sunned.

Keep your herd well supplied with pump water. Avoid river or surface water, as it is liable to be infected.

Keep condition powders and salt before your hogs constantly and see that they eat it, even if you have to mix it up with ground feed. It is a laxative and appetizer and keeps the stomach and bowels sweetened. Remember that vermin weakens the hogs and makes them more liable to diseases. To prevent vermin, keep the rubbing poles and oilers well oiled; spray the hogs and keep the cement wallow filled with water containing the antiseptic, changed once a week or oftener. This also prevents flies, mosquitoes and fleas from disturbing them.

Do not allow the hogs to get constipated. A growing pig is more apt to get a disordered stomach and become constipated than a mature hog. Remember that prevention of diseases is to be considered more than treatment.

Burn the corn cobs for charcoal. Put out the fire with salty water. The hogs relish the salty charcoal.

Burn all dead animals.

Quarantine all sick hogs, or those that are off their feed, until all possibility of scattering infection has passed.

Keep a pair of overshoes and overalls at the quarantine pens, to wear when working around them, and leave them there when you leave.

Do not allow birds and dogs around the hogs and feeding quarters. Keep strangers off the hog premises, but if you must have visitors, let them use a pair of overshoes when visiting the hogs pens and quarters.

Remember that nearly all diseases of swine are preventable.

BEGINNING WITH LIVE STOCK

Useful Hints to the Small Farmer Just Entering the Business

By B. E. CARMICHAEL
Ohio Experiment Station

PRESENT high prices for farm animals may encourage many to engage extensively in some branch or other of animal production, without first giving careful attention to a number of points that are of fundamental importance. The numerous failures that are experienced and the frequent changes in plans that are made by some who undertake live stock farming on a more or less extensive scale, furnish strong evidence that this line of work is too often engaged in without a sufficient knowledge or observance of the factors that make for satisfactory success or for flat failure.

MAN'S ABILITY IMPORTANT

Of all the factors that should be given very careful thought by the man who contemplates taking up some phase of animal production, none is of more importance than is the personal equipment of the man who is to have charge of the business. As successful live stock work is ordinarily conducted, the proprietor has a large share of the actual oversight and care of the stock. It is obvious that, under such circumstances as this, the owner of the live stock should possess genuine ability for doing well the work connected with the keeping of live stock. Numerous instances are observed in which failure, or at least only moderate success, is plainly attributable to a lack of knowledge and experience on the part of the owner.

The man who is willing to work only eight hours a day for six days a week, and this through only nine or ten months of the year, will in most cases decide that he is not equipped for successful work with live stock, and fortunate for him if he comes to this decision before undertaking the work.

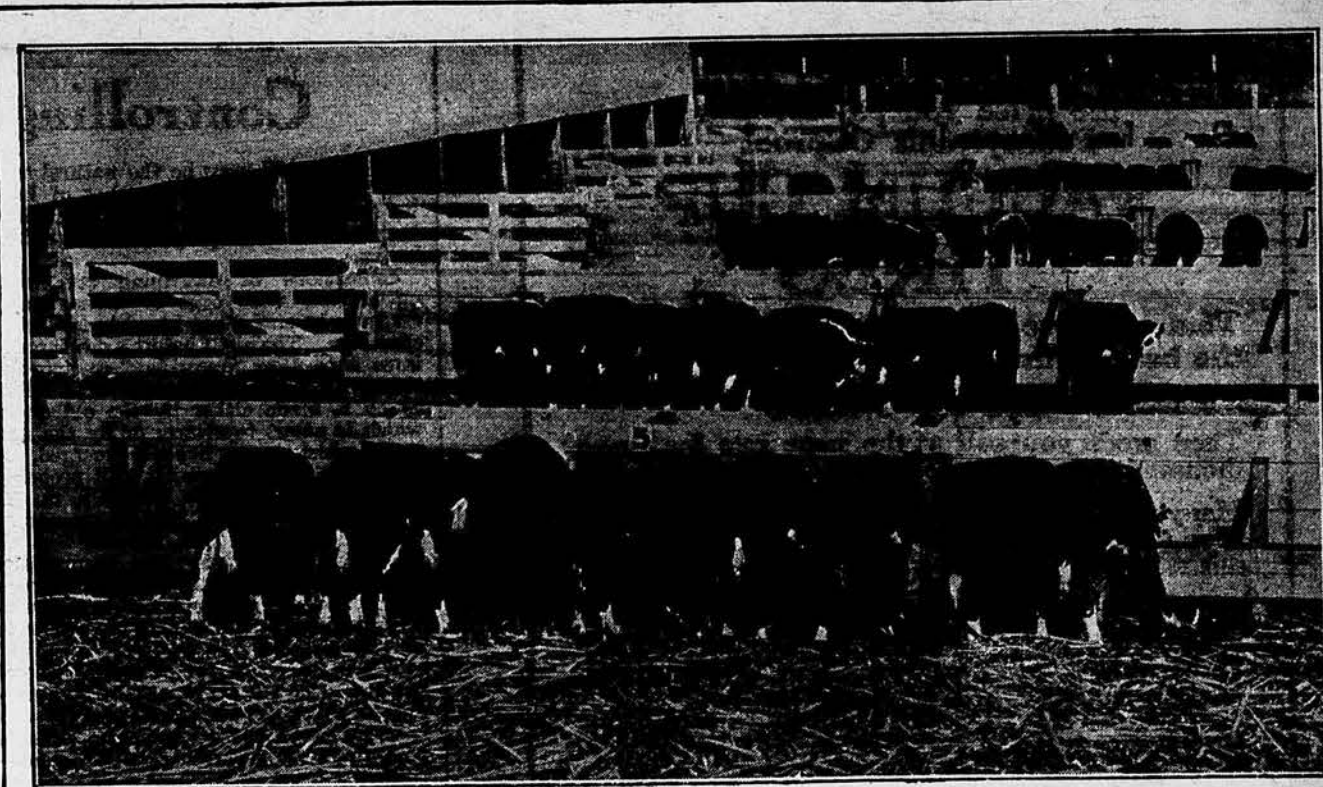
While much helpful information concerning the care of farm animals may be written or given in the form of verbal directions, no writer has yet put in ink a set of directions the following of which will insure success with live stock, and no lecturer or teacher has succeeded in telling an inexperienced man all that he must do with live stock to be successful. Practical working knowledge that may be gained only by experience is essential to success with live stock. If the beginner has not had this experience, he should secure it by working for another or by engaging in live stock production in only a small way until he has become experienced. A fondness for animals, while possibly not absolutely essential to success with live stock, surely contributes very materially to such success and adds greatly to the pleasure as well as the profit yielded by the business.

OPPORTUNITIES IN LIVE STOCK

While the writer confidently believes that live stock farming furnishes more complete opportunity for the exercise of personal initiative and for the application of executive ability and better financial reward for both than does any system of strict grain farming that has thus far been exploited, and that it also furnishes an avenue for preventing in an economical manner soil depletion, and for actually increasing soil fertility, yet he would urge the beginner to remember that soil fertility may be maintained without live stock and that, as has been stated time and again by soil specialists and agreed to by every careful student of animal production, the mere keeping of live stock never insures the maintenance of soil fertility. Therefore, the man who feels disposed to engage in animal production merely for the purpose of maintaining or increasing soil fertility should remember that his duty is not necessarily in the direction of live stock farming and that actual loss of invested capital as well as of soil fertility may result from blind attempts to conserve the fertility of his land by "keeping stock around to make manure."

STUDY CONDITIONS CAREFULLY

Whether to keep live stock in any extensive way, and what kind to keep will depend to a great extent upon location, climate, soil, feed supply, labor and



PRACTICAL PROBLEMS IN THE WINTER FEEDING OF YOUNG CATTLE HAVE BEEN STUDIED FOR SEVERAL YEARS AT KANSAS EXPERIMENT STATION.—AT THE MEETING HELD IN MANHATTAN THIS WEEK RESULTS OF THE PAST SEASON'S TEST WERE GIVEN.—CUT SHOWS GROUPS OF STEERS FED IN THIS SERIES OF TESTS

markets. The kind of animal production that will best meet these conditions in a given locality is the kind that should engage the attention of stockmen of that locality. A hint along this line may often be secured by the beginner from the experience of men who are succeeding with live stock in the locality.

The kind, type and breed of animals to keep having been decided upon, it is important to remember that the selection of individual animals for the herd or flock is a matter of no small conse-

quence. The only basis for selection that is likely to prove stable is that of utility. Points that have economic significance are the only ones that are likely to receive persistent attention from animal breeders. Fancy points or fads that are in fashion one time and out of fashion another, deserve no attention from serious minded men. Longevity, vigor, capacity for production, a good disposition, fecundity and preparancy are of far more importance than are many of the foolish fads that quence. The only basis for selection

engage the spasmodic attention of some so-called breeders.

Whenever it is possible to secure high-class animals close to home, it is highly desirable to do so. Such a course cuts down the expense of buying, shipping and acclimating. Besides, danger of the introduction of disease is likely to be lessened thereby. It is a distinct advantage to be able to see animals more than once before buying, and this is more easily accomplished if animals may be found close by. It is a wise policy to avoid purchasing stock from a man whose reputation for honesty is not strictly good. A pedigree information relative to previous treatment and performance, or even a birthday of an animal, is no more to be depended upon than is the man who supplies information concerning it.

Care should be exercised to avoid the purchase of animals that are affected with any dangerous or contagious disease or that have been exposed to such disease. Losses from tuberculosis, contagious abortion, hog cholera and other diseases are enormous, and breeders should do all in their power to avoid such losses from the very start.

EXPAND BUSINESS SLOWLY.

No matter how carefully the live stock man has launched his work, he must remember that a beginning is only a beginning. Careful selection of animals well suited for meeting the prevailing conditions must be supplemented by constant intelligent attention to the details of the business and to changing economic conditions that may be of sufficient consequence to demand an entire revision of plans.

The beginner should always keep in mind the fact that his own purpose in keeping live stock is to realize a profit from it, and, further, that live stock that does not minister to the necessity or the comfort of mankind has no right to a place in present day agriculture and cannot long keep such a place. Although opportunities for failure are abundant, yet the financial compensation and satisfaction that are associated with genuine success pay well for the labor and thought that are demanded.

Caustic Lime Harmful

The Pennsylvania Experiment Station has completed a twenty-year test of burned lime compared with ground limestone as a fertilizer for correcting soil acidity. The results show a remarkable advantage for ground limestone. It was found that each ton of fresh lime destroyed 1,175 pounds of humus in the soil and liberated 47 pounds of nitrogen. The land receiving quick lime produced 99 bushels less corn, 116 bushels less oats, 13 bushels less wheat, 5½ tons less hay per acre, during the 20-year test, than the land on which ground limestone was used. Four tons of ground limestone or two tons of quick lime were applied to the comparative plots every four years.

IMPROVING THE KANSAS EGG

WM. A. LIPPINCOTT, K. S. A. C.

GRADE Those Eggs" should be the slogan of every person in Kansas in any way interested in poultry production. Grading means more profit for the farmer, a standardized product for shipper, packer and consumer, and a greater outlet for breeding stock.

Producing better eggs is a farm problem. Paying better prices is a dealer's problem. Both are fairly simple. Both require special care. Neither will be fully solved unless the other is solved at the same time.

The production of eggs of the best quality involves considerable pains on the part of the farmer, and the farmer who is not already taking these pains, because he has formed the habit of doing all his work well, will not do so unless he is paid for his trouble. The only way of getting at him is to touch his pocketbook.

At present most of the eggs sold by the farmers throughout the country are purchased on the "case-count" basis, or, at best, "rots out." "Case-count" means that a flat price is paid for all eggs regardless of quality or condition. On the "rots-out" basis the actually rotten eggs are not paid for, but everything else goes.

Eggs that are small, dirty and stale bring as much money as newly laid eggs that are large and clean. This means that the producer of good goods fails to get his share of the returns.

Some one has said that the farmer makes a mistake in selling the goods he produces at wholesale and buying the goods he consumes at retail. He also sells much that he produces on the average price basis, getting the same price whether his goods are superior or inferior. He buys, however, on a graded basis, when he turns in his eggs in trade, whether it is for coffee, calico, or canned goods.

In spite of the prevalence of such systems of buying, there are probably more farmers and farmers' wives who are marketing eggs above the average in quality than there are buyers who pay average prices and get eggs below the average in quality. This means that the dealer is

not paying a price so high as the quality of the eggs warrants.

On May 31 a dealer was paying 14 cents a dozen and taking everything that was brought in, without reference to quality. On June 1 he began buying on a basis of two grades, which he called "firsts" and "seconds." He paid 15½ cents for the firsts. These were eggs that were of good size, clean, uncracked, and newly laid. He paid 12½ cents for the seconds, or eggs that were small, dirty, shrunken, or cracked. Rotten eggs were discarded and not paid for at all.

There was not a single day in the whole month's business when the "firsts" did not outnumber the "seconds." In the sum total of the month's business the "firsts" outnumbered the "seconds" more than three to one. This is only a single instance, but it is likely to be true in the majority of cases, and certainly will where quality buying is practiced.

On the first day's business, which happened to be Saturday, the difference between 14 cents and 15½ cents a dozen was found to amount to nearly \$10. If these eggs had not been graded, but bought on the flat price, the persons who had taken care of their eggs and brought in the 6653 dozen of "firsts" which were bought that day would have gone home with nearly \$10 less money than they did go home with. On the other hand, the persons who brought the 254 dozen second-class eggs went home with nearly \$4 less than they would have taken home if they had been selling at the flat price. This is as it should be. The person who sells a poor product would receive a lower price.

The difference between the \$10 and the \$4 comes out of the dealer's pocket. This particular dealer says that he is glad to pay this difference because he gets a larger number of first-class eggs. At the same time he knows exactly what he is getting and does not have to guess at the number of "seconds" or "rots" that he may possibly get, as he did when fixing a flat price. The price is set by the goods and not by guess. The guess is not likely to favor the farmer, as the dealer does the guessing.



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Controlling Bee Swarms

SWARMING may be the natural way
for increasing the number of bees,
but it is not desired by the bee-
keeper who is keeping bees to produce
honey.

Indications of swarming are when
queen cells with eggs or larvae nearly
ready to be sealed are found in the brood
chamber. The night before a swarm is to
issue a peculiar "quawking" or "piping"
sound may be heard in the hive. This
sound is made either by the old queen
which is about to swarm or by the new
queen which as yet has not emerged. If
it is a primary swarm, it will probably
issue between 10 a. m. and 3 p. m. If
it is an after swarm it may emerge at
any time between 7 a. m. and 4 p. m.
The bee keeper who has successfully
wintered his bees so that he has a strong
colony in the spring to carry on the sum-
mer's work should do all in his power to
prevent swarming.

The exact cause for swarming is not
known, although there are several con-
ditions which are known to stimulate it.
If these conditions are remedied, a large
percentage of swarming will be con-
trolled.

Those bee keepers engaged in pro-
ducing extracted honey do not seem to
be bothered as much by swarming as
are those engaged in comb-honey pro-
duction. In the hives used for extracted
honey the bees have much more room
and overcrowding is admitted to be one
of the chief reasons for swarming. To
overcome this condition, the bees should
have a sufficient amount of empty comb
and it should be in an easily accessible
place near and above the brood.

Exposure of the hive to the sun dur-
ing the heat of the day should be
avoided. The hives should be sheltered
by trees, placed in an open shed, or pro-
tected by an improvised shelter of some
sort. They must not only be protected
from the sun but should have plenty of
ventilation. This may be accomplished
by using a deep bottom board and block-
ing up the corner of the hive during hot
weather. The additional space furnishes
more room for clustering and facilitates
ventilation.

If a large number of drone cells are
noticed, these should be cut out and re-
placed, if possible, with worker combs.
Or, if the framer from which the drone
cells have been removed may be placed
in the center of the hive. Here the bees
are more apt to build worker cells. Full
sheets of foundation encourage the build-
ing of worker cells. Probably the most
commonly practiced method for prevent-
ing swarming is by cutting out the queen
cells. This, however, is not always a
dependable method. In spite of prac-
ticing all of these methods of control,
the bees may have the swarming
"fever" so firmly fixed that nothing will
prevent their issuing as swarms.

Swarming may be prevented by proper
manipulations, some of which are as fol-
lows: Introducing young queens, prefer-
ably from stock which has not swarmed.
Using bait sections or extractor combs
in the first super in comb honey pro-
duction. This will induce the bees to begin
work promptly in the super and avoid
crowding in the brood chamber. The
proper manipulation of super so as to
avoid crowding. The removing of combs
of broods and replacing these with
empty combs or sheets of foundation.—
J. H. MERRILL, Assistant Entomologist,
K. S. A. C.

Opens Way for Better Farming

A large percentage of farms today
have gas engines to work for them
pumping, sawing, grinding, etc.; in fact,
nearly every farmer has an engine avail-
able for power work. If he does not
own one his neighbor usually has one
he can borrow for a few days to help
out. In a very few years the small
tractor will have become as common.
Every man with 100 acres or more to
plow each year must keep at least five
horses to do the work. The small trac-
tor that will pull a gang plow is gain-
ing in popularity very rapidly. Not
only can the tractor plow, disk, pull the
drill and harrow, but grind feed, saw
wood, and fill the silo as well.

In buying a tractor be sure that it
will pull a gang plow. If it will do
this, turning a furrow 6 inches deep, it
should develop 15 horsepower and should
handle a 14-inch silage cutter with ease.
With the tractor to lift the burden of
plowing off the horses a way is open for

better farming. The plowing can be
done at the right season no matter what
the temperature is or how dry the
ground is. The plow can also be set to
a good depth. Nearly all team work is
done on some successful farms with the
light tractor allowing the owners to dis-
pose of nearly all their horses and cut-
ting down on the feed bill. A great
many people have enough horses laying
around 11 months in the year eating
their heads off, if sold would bring
enough money to buy a tractor to do
the heavy team work and while idle
would not depreciate in value or take
care and feed.—Northwest Farmstead.

Ditching with Dynamite

The writer has had considerable ex-
perience with blasting ditches for drain-
ing land and considers this method much
superior to hand digging, as the work
can be accomplished in less time, easier,
and at less expense than in the old way
of hand excavating. When blasting, I
find the condition of the soil plays a
very prominent part in the amount of
dynamite to be used. In light, dry soil,
the charges are required to be closer to-
gether than if the soil is wet. I usually
use a blasting machine when wishing to
fire a line of shots at one time, and
thus use a low grade of dynamite, say
20 or 40 per cent.

If the land where the proposed ditch
is to be made is wet or under water, I
use the propagation method, the firing
of which is accomplished with a No. 6
cap and fuse.

For the propagation method use a
punch bar not less than one and a half
inches in diameter and make holes about
eighteen or twenty inches apart and
down to within six inches of the re-
quired depth. To give an estimate of
the amount of dynamite to use for a
ditch say three feet deep, I would use
from one-half to one stick (1 1/2 x 8 inch)
of 60 per cent straight nitroglycerine
dynamite, or for a ditch eight feet deep,
from three to four cartridges would be
sufficient and satisfactory. Try a few
holes in an experimental way before the
final blast is made, say eight or ten
holes, then make the string of holes
along the line of the proposed ditch and
into each hole place the charge, tamping
well with a wooden stick, never using
metal. Leave the middle hole until the
last and into it place its charge, the
last cartridge in this hole being primed
with a No. 6 blasting cap to which the
fuse has already been crimped. Tamp
thoroughly, light and retire to a safe
distance. The concussion of the first
explosion causes the other charges to
fire practically simultaneous. Should
the land be covered with water where
the proposed ditch is to be made, it is
better to load the holes just as soon as
made, as the mud is likely to fill them
up. In case water is standing on the
ground, tamping after loading is unnec-
essary, as the mud and water fills the
hole, acting as tamping.

When firing electrically, the holes are
made in the same manner as for the
propagation method, only I load them
with 20 or 40 per cent dynamite instead
of the 60 per cent. The top cartridge
in each hole is primed with a No. 6 elec-
tric blasting cap, the charges are thor-
oughly but carefully tamped, the wires
connected together and thence connected
to the lead wire which is not to be at-
tached to the blasting machine until just
ready to fire. When firing electrically
never connect the lead wire to the blast-
ing machine until the very last thing.

My best work has been accomplished
when the wind was blowing so that the
dirt would fall to one side, clear of the
ditch, and when the temperature of the
ground was about 50 degrees Fahrenheit
or higher.—J. RICH LUCAS.

On the same acreage two cows fed
silage can be kept at the cost of one cow
fed hay or other roughage. In other
words, good land will support twice as
many cows with a silo as without it,
but to get the best results in feeding,
silage must be properly balanced with
alfalfa or clover.

Generous feeding of right materials
not only causes rapid and large growth
but builds up a strong constitution and
develops those tendencies that go to
make an animal that is worth while, in
fact, by proper feeding is the only way
in which a dairy animal can be developed.

Importance of Farm Accounts

IT HAS been estimated that 20 per cent of the manufacturers of this country fail because of poor business management. The manager is invariably a workman skilled in that special profession and as an overseer of workmen he is efficient. He fails, not because he is unable to manufacture or make goods of excellent quality, but because he does not keep accounts sufficiently accurate to determine his total cost of production. His margin of profit is too small to meet the expenses of buying, advertising, and other overhead charges, and is in reality a margin of loss. It is very seldom that the man who keeps a good set of books fails. He knows at all times how the cash side of his business stands and his sales are based upon that knowledge.

The farming business is operated upon the same basic principles which govern a manufacturing business. It is true that many men who can raise good crops or stock do not make a success of farming. If they are asked the reason for their failure they point to the poor weather conditions, market fluctuation, or insect and fungus ravages which have affected their herds or crops. "Give us the season and we will produce the money" is the usual statement accompanying this explanation. Neighbors of these same men will be found who have been fortunate or "lucky" and have made money notwithstanding these same adverse conditions.

The difference in the general conditions of these farmers is not appreciable. Each may produce good crops and their live stock will not vary much in quality. The successful men will point to definite rules or principles which govern them in their buying and selling. The relation between the quantity of crops fed and those sold assumes a certain ratio. In other words, these men maintain a definite system in their business. They generally keep records for the definite purpose of showing what certain enterprises produced and what the farm as a unit netted. They do not think of those simple accounts as "keeping books," yet they answer the purpose of a more complex set of records. This habit of "putting things in books" invariably leads to more carefully planned farm work and greater thoughtfulness in the expenditure of money.

The unsuccessful man has failed to correlate the various enterprises of his farming business so as to show their relative importance in producing an income. Unless he has a very exceptional memory, he will not be able to study his business as he would if aided by some definite records. — P. E. McNALL, K. S. A. C.

Keeping Books Pleasant Task

"We enjoy keeping books," writes Miss Lydia Smyres of Cherokee County. "We are keeping ours as carefully as they are kept in stores. Not only are the members of the family learning to keep records, but it makes our farming a business. We know our profit and loss account is correct. Keeping accounts of our farm business often helps us to make money go farther, and that means money saved."

"We also find keeping a diary pleasant and profitable. We write in this record a few lines each day covering such items as weather, farm work, house work, new clothes, and visits made or received. This may seem like taking a lot of trouble, but we frequently find the information recorded in our diary of considerable value."

Town and County, Co-operate!

The average middle west small town is not a complete unit without the country which surrounds it. They are parts of one unit. Either without the other will fail to do its work well. An occasional Fourth of July celebration, street fair, or similar wholesale getting together, is not the kind of co-operation which alone will bring the parts of this unit into the best working harmony. Each must help the other in solving the problems of the whole unit. The town must not feel that this co-operation consists in dragging the farmer away from home in order that he may be induced to spend his money, and the farmer must not feel that towns thrive only at his expense. One acts as the selling and buying department of the unit, and the other as the producing department.

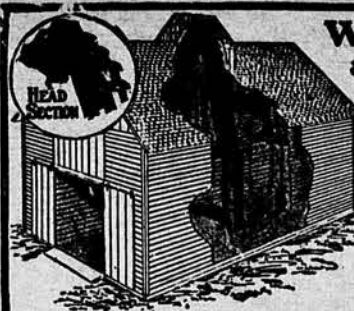
Middle west farmers are realizing more keenly every year that their greatest problems are social and economic problems. They may need to improve their methods of crop raising, but they need much more to improve their

living conditions, market facilities, and credit methods. When the towns give vigorous help in these directions, their co-operation will mean a great deal more and will meet a much prompter response and a smaller inclination to depend on mail order houses.

The buying and selling department of this unit of town and surrounding country territory is just as important and just as truly productive as are the fields and pastures in which corn, oats, wheat, and hogs are produced for home use or for market. The old idea that only the farmer and miner really produced anything, and that those who buy and sell for gain are mere parasites, has been exploded, and we know now that the banker and storekeeper, the railroad and the steamship, and the manufacturer and jobber, are just as productive as any of the other producers if their work is economically handled. It is poor business policy for any of these useful members of society to sneer at any other, or to refuse co-operation for the common good. — A. J. MEYER.

Locate the wet spots on the farm and plan to tile drain them next fall. You cannot afford to have these loafing acres on your farm. It takes more time to farm around the wet places and when properly drained the wet land will often become the most productive soil on the farm.

Each year the cattle feeder is finding it more difficult to fill his feed lots. Buying cattle for feeding purposes is a gamble with the chances against the buyer under present conditions, but there is a good profit in raising and feeding a good quality of beef cattle on your own farm. On many farms cattle must continue to be the only means of marketing roughage, etc.



National Giant Inside Elevator

On cribs 22x36 ft. or less, with half pitch roof, it is not necessary to have a cupola. When cupola is necessary, we can save you from \$15 to \$30 by using the National Giant. Ask us why. We also save you the cost of digging a pit. Save you on the length of elevator required! This machine has more sensible features than any other elevator on the market. Spout swings around from side to side—fills crib directly back of elevator. Short delivery distance means less power, longer life. Also this elevator leaves corn on the cob, where it belongs. Ask us why.

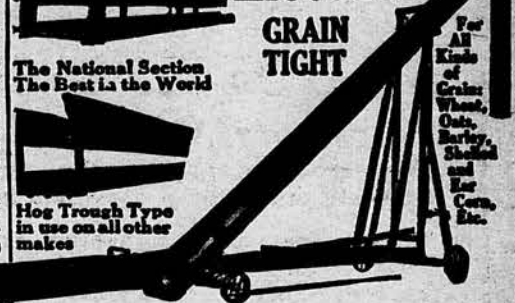
Write Today for Full Details and get our very attractive prices for 1916. We'll send you plans and specifications on request. Ask for them. Terms arranged to suit. Write us today.

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Write for FREE Crib Plans and Attractive Prices on these Wonderful Grain Elevators

Just the type machines grain farmers are looking for. Our National Giant Steel Elevators are rigid and meet increased strength demands of 36 to 48-foot elevator lengths because they have 16 angles to the section. (Ordinary elevators have only 4.) A wood rib running full length and corrugated steel couplers and keeper irons insure everlasting stability. Ribs also keep chain from dragging—lightening draft and eliminating noise. This machine has greater capacity, 8 inches wider than others. Crib 60 bushels in 3 to 5 minutes. Screen in bottom keeps out silk and shelled corn—preventing rotting. Write for special terms and attractive prices.

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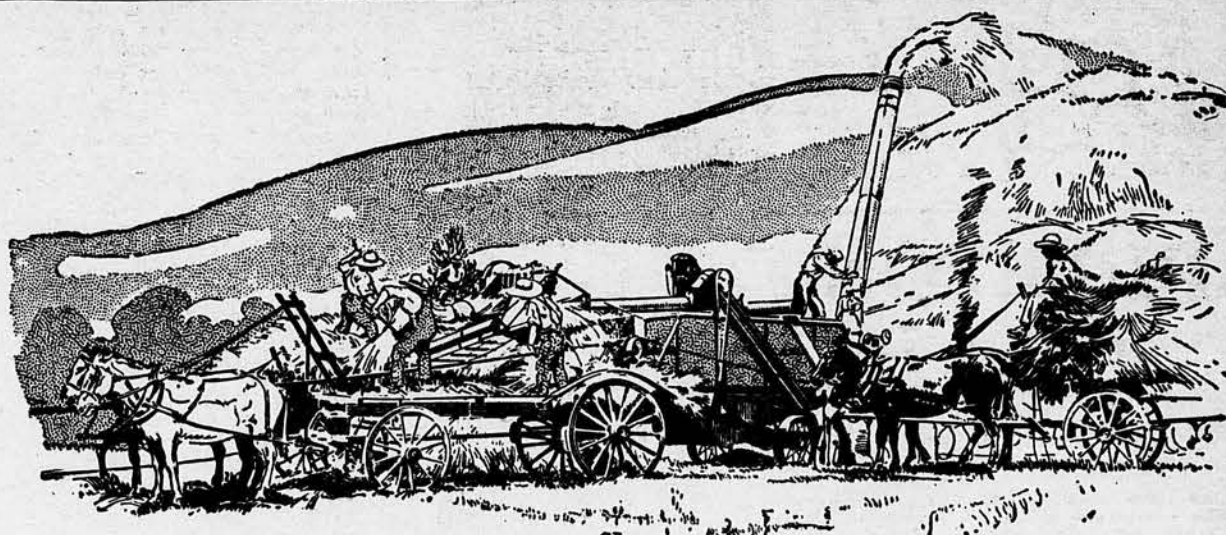


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Seek Power, Economy, Simplicity

It is a well-known fact that the yearly sales of Case threshing outfits exceeds that of the next three concerns combined. Surely this overwhelming evidence of Case leadership proves to you that this popularity is the result of actual performance.

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When any machine earns practically universal popularity, this very popularity is proof of merit.

In the threshing field, Case has won first place because we have been specializing in threshing and power machinery since 1842. Our experience—our efficient industrial organization—our resources—mean for you a maximum of value for money expended.

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Case engines of the three types lead simply because they have proved by actual work that they are all we claim for them. The farmers themselves

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In the steam class, Case engines for years have been acknowledged the simplest, the most powerful, and therefore the most economical. Take our most recent advance—improvements in boiler construction. This proves that we still believe in steam power as well as in gas.

Case steam engines meet the boiler laws of all states and provinces. For steady power for threshing they are without equals.

Or if you want a gas tractor with your threshing machine, Case builds four sizes, 10-20, 12-25, 20-40 and 30-60.

If you are figuring on buying an outfit, buy Case. Better be safe than sorry. If you are having your work done, be sure that the thresherman has a Case outfit. You will be money ahead.

Our catalog tells why. Want a copy?



The Sign of Mechanical Excellence the World Over

J. I. Case Threshing Machine Co., Inc. (FOUNDED 1842) 711 Erie St., Racine, Wis.

Kansas Farmer Dairy Club

Matters of Interest and Help to all Our Members

LAST week in this department we showed the picture of a milk record made out as we would like to have them made, and we hope our dairy club members will refer to it often that they may get the habit of making their reports in this way. There are many boys and girls in the club and unless your reports are made uniformly, it means that much extra work will be necessary here in the office to gather the information and correct the reports.

Making these reports in a way that will fit the blanks sent out by KANSAS FARMER, is a part of the agreement signed by each dairy club member, so this work should be done just as carefully as you milk and feed your cow. If this work is not done correctly, you may cheat yourself and your cow, for these records will be a part of the basis of awards.

A few of our boys and girls have sent in their reports incorrectly made. The most common mistake has been the mixing of the calendar months. As most other business is done on a basis of calendar months, we thought best to have our dairy club business on the same basis and the reports have been printed accordingly. Both the feed and milk records have thirty-one spaces—dated 1 to 31—and you should begin marking your record in the space that corresponds to the date on which you began milking. Your feed record should be begun at the same time in the space on that blank bearing the same date.

By referring to the dairy club department in the June 3 issue, this explanation will be understood.

If it is as easy to make the reports right as wrong, and we hope our boys and girls will read the printed forms on the reports and then give the information asked for, in the right place.

Just do your best. We have all the faith in the world in folks who do their best—especially boys and girls.

Club Member Tries Out Cow

KANSAS FARMER has just received an interesting letter from a dairy club member in Labette County. This girl bought a Hereford cow in March, which gave her a heifer calf the first day of April. She decided to test her cow before entering her in the club work. By keeping a record of the feed and the milk the cow has made of it, this club member has decided the cow would not be profitable in the club work and will not enter her. She is now looking for a cow with some dairy qualities.

This girl has learned a most valuable lesson at the outset, namely, that if you are feeding a cow for milk, the feed should be used by her in making milk and not for growing fat on her body. It takes just as much work to milk one cow as another, and if a milk-making ration is fed it costs just as much to feed one cow as another, but there is all the difference in the world in the use

two cows will make of that feed. One will pay for her feed and build a modest bank account, the other may even be kept at a loss. Any business that does not pay expenses and at least a little more, is unprofitable—whether it be dairying, selling dry goods or groceries. If the dairy business of the farm is done at a loss it is sure to be a drain on the profits of some other part of the business.

A Word to New Members

As soon as you have bought your cow, fill out the blank which calls for description of cow, purchase price, date of freshening, etc., and send at once to KANSAS FARMER. This is our first record of your having become a member of the Kansas Farmer Dairy Club and we should have the blank promptly.

Remember you can start your record any time up to September 1, 1916, and as soon as you start you should send in the blank covering this.

Both these blanks are important and should be promptly sent us.

Are You Feeding for Milk

If you would get the best possible cash results from your year's work in the Kansas Farmer Dairy Club, you should know what the feed you are giving your cow will make. Your cow has a certain capacity for making milk—she will give a certain quantity of milk if she receives the feed that will make that much milk. To get the most profit out of your investment you should supply your cow with all the feed she can make into milk.

One member writes he is feeding his cow five pounds of bran a day and that she is on pasture. This boy would get better results if he would feed a mixed grain ration instead of bran only, and this ration would supply the required nutrients cheaper than will bran alone at present prices. For cows feeding on grass a combination grain ration consisting of four parts, by weight, of corn chop, two parts bran, and one part of either linseed oil meal or cottonseed meal, will give good results. If the linseed oil meal can be bought at as low or lower price than the cottonseed meal, it is preferable as its effect on the system is better.

Your cow might make profitable use of six or seven pounds of this mixture daily. Of course, you should increase gradually, noting what effect it is having on the milk flow. Also figure just what the ration is costing you so that you will know whether the increase is worth what it costs. Herein is the value to you of the feed and milk records required in the club work.

When you keep a record of what you feed a cow, and the milk she gives in return, it is different from just milking cows without knowing whether or not they are worth the work put on them.



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Treat all seed grains with Formaldehyde. It positively destroys smuts of barley, oats, wheat, rye, and annihilates potato scab and black-leg. Our new big Hand Book tells how to use

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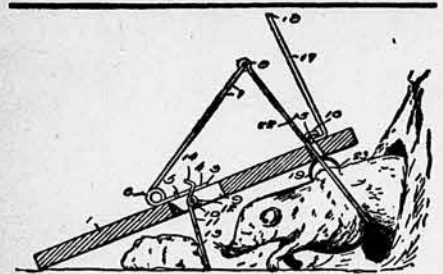
You Can't Cut Out A BOG SPAIN, PUFF OR THOROUGHPIN, but

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

will clean them off permanently, and you work the horse same time. Does not blister or remove the hair. \$2.00 per bottle, delivered. Will tell you more if you write. Book 4 K free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Varicose Veins, Ruptured Muscles or Ligaments, Enlarged Glands, Gout, Wens, Cysts, Allays pain quickly. Price \$1.00 and \$2.00 a bottle at druggists or delivered. Manufactured only by W.F. YOUNG, P. O. F., 211 Temple St., Springfield, Mass.

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FITZ
OVERALLS
have a reputation—wear like hickory—fit any size. If your dealer does not carry your size in stock, tell him to get it for you in 24 hours—
BURNHAM-MUNGER-ROOF
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Sure Catch Mr. Gopher

Latest invention on gopher trap. Patented July 18, 1911. Easily attached to gopher trap. Price 15c, postage prepaid. Write

H. W. Miller, Junction City, Kansas

\$13.50 Sweep Feed Grinder | **\$17.00 Galvanized Steel Wind Mill.**
We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.
CURRIE WIND MILL CO.,
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"YOUR OWN NAME"

RIGHT SIZE **3 3/4 INCH**
JOHN SMITH, ORAN, MO.
ON THIS EXTRA FINE KNIFE
Two best quality steel blades. German silver tips, brass lined. Transparent handle showing your own name.
We will send this beautiful knife with your own name on it for one yearly subscription to Kansas Farmer at \$1.50 or a three years' subscription at \$2.25. Address
KANSAS FARMER - TOPEKA, KANSAS



Scott City, Kans., May 6, 1916 No.

CITIZENS STATE BANK

63-405

Pay to Albert J. Reed or Order, \$ 7.00

Seven and no/100 Dollars.

For Cow insurance Harvey Russell

THE check here shown is evidence of the chance one Kansas Farmer Dairy Club member has for "making good" in the club through good business methods. Harvey Russell is only thirteen years old, but to him his investment in a cow for the club work was a start in business. He knew that if anything happened to his cow the banker from whom the money was borrowed for the investment, would expect him to pay his note just the same, and this led him to insure his cow and thus put his business with the banker upon a safe basis.

Harvey bought his cow near Topeka and this check was sent so that the cow could be insured before being shipped and he would be protected against loss while she was making the trip across the state.

We are convinced that boys and girls are businesslike when given a chance to be, and we are expecting much of the dairy club members.

YOU CAN'T PLOW WITH AN AUTOMOBILE

Power and weight are necessary factors in heavy traction work like plowing. Many attempts have been made and are being made now to do this class of work with light-weight explosive engines. They do not and cannot get the same economical results that properly designed and constructed Oil-Gas Tractors can accomplish.

NICHOLS & SHEPARD CO.'S OIL-GAS TRACTOR

Is properly made to do the work that it is expected to do. It is not an experiment, but a tried and tested machine, good enough and reliable enough to be sold under the Red River Special name and guaranty.

It will plow, haul and work at the belt with the steadiness and sureness of steam.

Operating economies are highly developed. It has the power, it has the strength, it has the weight to do the things that you want it to do—and that we guarantee it to do—without stalling or breaking down. That's business.

DON'T TRY TO WORK A PLEASURE MACHINE

There's a lot to this gas engine question. It is well worth careful investigation before you buy any kind of a tractor that makes power with oil or gasoline. Write us for particulars and consider the facts that we put before you before your decision is made. Ask for the Home Edition of the Red River Special paper and the Big Catalog that tells about our line.

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BUILDERS EXCLUSIVELY OF THRESHING MACHINERY

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(20) BATTLE CREEK, - MICHIGAN



New Small Sized Threshers For Small Sized Tractors

NOW you can get a small Avery "Yellow-Kid" Thresher in either a 19x30 or 22x36 inch size for use with a small tractor. An Avery 8-16 Tractor and 19x30 Thresher or an Avery 12-25 Tractor and 22x36 Thresher will make you a fine small threshing outfit.

Get ALL the Facts about Avery Tractor Farming and Threshing Outfits. Six sizes Tractor Threshing Outfits—a size for every size farm. Five sizes Tractor Threshing Outfits—a size for every size run. Write now for 1916 Avery Tractor, Plow and Thresher Catalog. Address

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Ask for address of nearest Branch House or Jobber

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Don't throw them away. Save them and ship to us. We'll pay you HIGHEST MARKET PRICE. Get your neighbor to ship his bags with yours. Established 1870.

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DICK HOPPER
MANHATTAN, KANSAS

STOCKMEN AND FARMERS

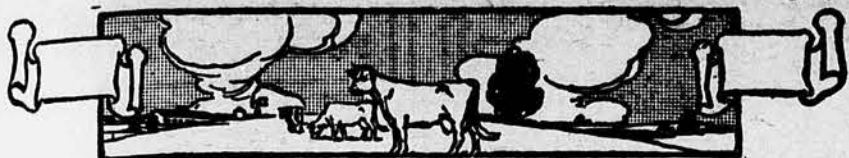
6,500 acres in FLORIDA for sale in a body. \$8.00 per acre, payable \$1.00 per acre down, balance \$1.00 per acre per year. 6% interest. Fine grazing proposition. For particulars write **E. C. HOWE**, 733 Hartford Building, CHICAGO, ILL.

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Practical System of Tests

AT THE annual meeting of the Holstein-Friesian Association this year two propositions are to be considered which, if adopted, will place official testing of dairy animals on a rational basis and make it consistent with sound economy in dairy practice. One of them has been submitted by John B. Irwin, the owner of the cow holding the world's yearly record for butter production and who is therefore acting on the dictates of experience, and the other is submitted by a committee of the association. Mr. Irwin's proposition is to provide for a class for production for a period of 305 days, and to credit in this class all cows that have made records for 365 days on a basis of their performance for 305 days. The proposition submitted by the committee is practically the same except that the official test period shall be 270 days.

Experienced breeders and practical dairymen realize the principle that is behind this movement for a change. The breeding of dairy cattle must rest on a foundation of economical dairy practice. Not one dairyman in a thousand would advocate milking a cow 365 days in succession, nor would he consider it good dairy sense not to breed his cows so as to have their calves regularly every twelve months. But in a mania for large records our breeders have almost completely ignored these cardinal principles of sound dairy practice and the big record is sought at the expense of every other consideration. The seven and thirty-day tests have been condemned, and no doubt rightly so, on account of their failure to indicate the continued performance of the cow. The yearly test is equally at fault because it utterly ignores correct dairy practice. Yearly records are of two kinds, one kind, and usually the one that makes a poor showing taken in itself, is made by cows that are pregnant eight or nine months of their test year; in the other class the cows are pregnant one to three months and frequently not at all. The most unprofitable cow in a dairy, be she a grade or a pure-bred, is the cow that does not have a calf once every year, but under the present system of official testing she is the one that is most likely to be set up as a model of dairy perfection. The 270 or the 305-day test period will sweep away the false basis on which she stands by removing the handicap that she enjoys over the cow that is bred according to the dictates of sound dairy practice.

The Holstein association may not adopt this new idea at this time. To do so might, in the eyes of a majority of its members, put their records at a disadvantage with those of other breeds working under the old system, but it will come sooner or later. Already breeders and dairymen are wise to the weakness of the present system. They want something more than big figures in a record; they want to know the conditions under which it was made, and are not falling over themselves to buy the bull calf of a cow that has made a "stuffed" record, and such is one made by a cow whose breeding has been sacrificed in the interest of a big showing. Under the present system of yearly tests it is noticeable of late that the owners go to the trouble to state the number of months that the cow carried a calf if she was fortunate enough to make her record under such favorable conditions.—Pacific Dairy Review.

Southwestern Dairy Show

The Southwestern Dairy Show Association was recently organized for the purpose of holding a strictly dairy show in Kansas City.

The purpose of this association is purely educational and is to consist of exhibits of dairy cattle, dairy products and dairy equipment.

The show will be held in the commodious convention hall, situated in the very heart of the hotel district of Kansas City, and being so centrally located, a very large attendance is anticipated. The time of the show is September 18 to 23.

Already we have the assurance of five different breeds of dairy cattle, and the machinery interests promise a fine exhibit.

A market milk contest open to the United States will be a feature of this show and special prizes will be offered. There will also be a butter exhibit con-

sisting of a ten-pound tub of creamery butter from each exhibitor, for which suitable prizes will be offered.

The various breed associations are taking a considerable interest in this new enterprise, which promises to develop into one of the greatest dairy shows in the United States.—J. G. WATSON, Manager.

Essentials of Dairy Farm

Sunshine, fresh air, warmth, and comfort are the main essentials of a sanitary dairy barn. Many farmers have the idea that expensive barns and equipment are necessary for the production of clean milk. This is not the case. There are many cases where thousands of dollars are invested for equipment and conditions are ideal, but lack of proper methods and knowledge of cleanliness result in a poor quality of milk.

Farmers can install some type of swinging stanchions, gutters, and a ventilating and lighting system at a low cost. Most any stable can be remodeled

into a good milking barn. In building a dairy barn, one must keep in mind the cheapness of construction and the ease of keeping both the barn and the cows clean. Proper construction of stalls and gutters assists materially in keeping the cows clean.—J. B. FITCH.

Cow Testing Report

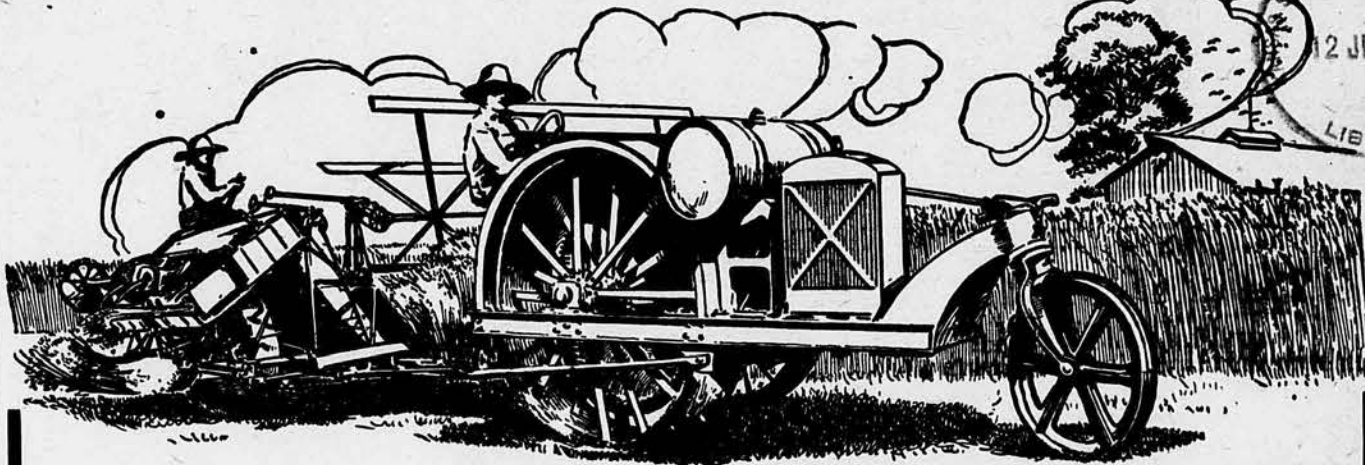
Records of cows in the Dickinson County Cow Testing Association which produced more than forty pounds of butter during the period of thirty days ending April 30, 1916. "J" stands for Jersey; "H" for Holstein; "S. H." for Short-horn; "R. P." for Red Polled.

Owner—	Pounds Milk	Per Cent of Fat	Pounds Butter 80 Pct. Fat
Ralph Sterling, J.....	660	5.3	43.7
Ralph Sterling, J.....	822	5.6	57.6
Ralph Sterling, J.....	845	5.4	43.6
Ralph Sterling, J.....	879	4.2	46.1
Ralph Sterling, J.....	948	5.6	66.4
Ralph Sterling, J.....	813	4.0	40.9
D. S. Engle & Son, H.....	1,125	3.7	52.0
H. S. Engle, H.....	1,422	3.0	53.4
H. S. Engle, H.....	1,290	3.8	61.2
H. S. Engle, H.....	1,443	3.8	59.3
H. S. Engle, H.....	948	3.4	49.4
Will House, S. H.....	899	3.8	41.7
Will House, S. H.....	1,098	3.2	43.9
Will House, S. H.....	1,047	3.6	47.1
E. N. Farnham, J.....	828	4.4	46.5
Mott & Seaborn, H.....	1,956	4.2	102.7
Mott & Seaborn, H.....	1,290	3.4	54.8
A. H. Diehl, S. H.....	768	4.9	47.0
George Lenhart, H.....	1,014	3.3	41.9
George Lenhart, H.....	1,002	3.6	45.0
George Lenhart, H.....	1,239	3.2	49.5
George Lenhart, H.....	1,361	3.5	58.8
George Lenhart, H.....	1,137	3.2	46.5
George Lenhart, H.....	1,086	4.0	54.3
George Lenhart, H.....	1,122	3.2	44.8
George Lenhart, H.....	1,296	3.0	48.6

Joe Pryor, H.....	759	4.6	43.6
Joe Pryor, H.....	881	4.4	47.2
J. R. Collins, R. P.....	831	4.2	48.9
J. R. Collins, H.....	1,329	3.4	48.2
E. S. Engle & Son, H.....	828	3.4	45.5
E. S. Engle & Son, H.....	945	3.5	40.8
E. S. Engle & Son, H.....	981	3.5	41.4
E. S. Engle & Son, H.....	915	4.3	52.8
E. S. Engle & Son, H.....	1,119	3.6	41.1
E. S. Engle & Son, H.....	894	3.8	51.6
E. S. Engle & Son, H.....	885	4.2	46.9
E. S. Engle & Son, H.....	810	4.0	44.3
E. S. Engle & Son, H.....	1,947	2.1	40.5
E. S. Engle & Son, H.....	1,014	3.1	75.2
A. B. Wilcox, H.....	1,020	2.4	43.4
A. B. Wilcox, H.....	1,461	2.6	65.8
A. B. Wilcox, H.....	1,080	2.6	48.6
A. B. Wilcox, H.....	1,639	2.8	63.5
L. U. Hoffman, H.....	1,086	3.6	48.8
L. U. Hoffman, H.....	866	3.7	44.8
L. U. Hoffman, H.....	1,320	3.8	41.0
L. U. Hoffman, H.....	1,008	3.3	52.9
L. U. Hoffman, H.....	1,369	3.5	41.5
L. U. Hoffman, H.....	1,191	2.9	55.5
J. A. Weishar, H.....	1,044	3.3	43.1
J. A. Weishar, H.....	1,518	3.1	58.8
J. A. Weishar, H.....	1,293	3.5	58.6
J. A. Weishar, S. H.....	1,008	3.2	40.3

The summer silo is gaining favor rapidly as a means of storing succulent feed. Many dairy farmers feed silage every day in the year and especially when pasture is not to be had. A small silo built and filled in the fall to be opened in July is the most economical method of supplying a succulent ration during short pastures. Silage left over from winter feeding may be kept with very little loss until midsummer. Cows should be fed from forty to fifty pounds of silage each day. Silage alone does not furnish a balanced ration, so some grain should be fed, especially to the cows that give the most milk.

Getting the Wheat Cut Quickly



SPEED---Getting the work done quickly---that's what a BIG BULL TRACTOR means to you at harvest time.

The BIG BULL is no sluggard—never shirks work—regardless of how hot it is or how bad the flies. Pulling a binder with a tractor may be something new to you, but, in 1915 many farmers ran their BIG BULLS 24 hours a day and saved ALL the crop. "I pulled my 12-ft. header with my BIG BULL for 10 days, averaged 25 acres per day in very wet, soggy ground. Got it all stacked just a day before we had a very destructive wind storm and saved the price of the BIG BULL in just a few days"—says Guy E. Dick of Alton, Kansas.

You can bind from 25 to 35 acres of wheat a day and do the work BETTER, with a BIG BULL. Because of the speed of the BIG BULL—2½ to 3 miles per hour, the binder works more efficiently. Think what all this means to you, compared to the old way—the horse way.

Cutting wheat is important work, but it is only one farm job you can handle QUICKER, CHEAPER, BETTER and EASIER with a BIG BULL than any other way you can mention. For instance, after the wheat is cut, it must be threshed. When it comes to threshing—the BIG BULL will startle you. Operating a 26-inch Separator, fully equipped with weigher and wind stacker—that's where the BIG BULL shows power.

BIG BULL TRACTOR

7 H. P. at
Drawbar

\$645.⁰⁰_{F.O.B.}

20 H. P. at
Belt

Minneapolis

There's the fall plowing to be done.

Plowing six to eight inches deep—eight to ten acres per day, the bull wheel in the furrow subsoiling three inches more; harrowing at the same time—that's where the BIG BULL first won fame. Remember this—the speed of the BIG BULL enables you to plow as many acres with two plows as you can plow with a slower tractor with three or four plows. It isn't the number of plows you pull, but the number of acres you plow per day that counts.

You'll want a Big Bull Tractor for the plowing and other fall work. You might as well buy it now—have the use of it to cut your wheat, thereby saving considerable amounts of time and money. Then you'll have the tractor all ready for the fall work.

Your dealer can supply you with a BIG BULL TRACTOR now—he may not be able to do so later on because there's a scarcity of steel, and the demand for BIG BULL TRACTORS after harvest was greater than the supply last year, and will be the same this year. BIG BULL TRACTORS will be mighty hard to buy—get your BIG BULL now and be prepared.

THE BIG BULL BINDER HITCH enables you to hitch onto any binder. If you have to buy a new binder, no truck, tongue, whiffle-trees, nor neck yoke will be required. This will not only pay for the BIG BULL HITCH, but will save you money besides.

See Your Dealer at Once or Write

HALL BROS. & REEVES MOTOR CO.

1533 GRAND AVENUE

KANSAS CITY, MISSOURI



Victrola IX, \$50
Other styles \$15 to \$400

HAVING a Victrola is just like having the greatest singers in your home.

It places at your command the most famous artists of all the world to sing and play for you the music you know and like best.

Hear your favorite music at any Victor dealer's. Write to us for catalogs.

Victor Talking Machine Co., Camden, N. J.



Kill All Flies! They Spread Disease

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

Daley Fly Killer Sold by dealers, or sent by express, prepaid, \$1.00. **HAROLD SOMERS, 180 DeKalb Ave., Brooklyn, N. Y.**

WIRELESS TELEGRAPHY

With our regular course in Morse Telegraphy and R. R. Station Work. Four to five months required. Earn \$50 to \$150 per month. Positions guaranteed; earn board while learning. **Wichita Telegraph College, Desk Y, Wichita, Kansas.**

— OTTAWA —
Business College
OTTAWA, KANS. CATALOG FREE

Real Estate For Sale

640 A. Gove County Wheat Farm, spring water, near town. Price, \$14,000. Want Eastern farm equal value. **J. F. Kell, Salina, Kan.**

FOR SALE—40 a., almost adjoining city Krebs, city 3,500, this county 2 1/2 miles McAlester. All bottom. All tillable. Soil, dark loam. Part in cult. \$35 acre. **SOUTHERN REALTY CO., McAlester, Okla.**

FOR SALE AT A SACRIFICE
Magnificent 15-room modern residence. Cost \$28,000 to build. Within five minutes' walk of Union Station. Is good business property. Will sacrifice for \$9,000. \$5,000 will handle. Address **R. N., Care Kansas Farmer.**

RANCH FOR SALE.
1,280 Acres, two streams, two sets improvements; 175 acres under irrigation, fenced and cross-fenced, outside range. \$10.00 per acre. No trade considered. This is a bargain.
C. A. WILLIS, DOUGLASS, WYOMING

UTICA, NESS COUNTY, KANSAS
On main line Missouri Pacific. Send for list of sixty wheat, corn and stock farms, any size you want, map of Kansas and other literature. If you don't want to buy any land, do you know of anyone who does? If you do, send us the names of parties who might buy land here. If we close a deal with any of them, will pay you well for your trouble. **Buxton Rutherford Land Co., Utica, Kansas.**

Beautiful Farm Home

Close to Ottawa, Kan. Well improved, rich soil, fine shade, splendid soft water. You will like this 120 acres. Write for description, price, and postcard view of improvements.

Mansfield Land Co., Ottawa, Kan.

Come to Fowler, Meade Co., Kansas

Where great opportunity awaits you; where you can buy the finest of alfalfa lands set to alfalfa with flowing artesian wells; fine orchards and homes at from \$50 to \$75 per acre. Finest of wheat land, improved, at \$25 to \$50 per acre. Friends, Catholic, Christian and Baptist churches with large congregations. Write
THE HADDICAN LAND CO., Fowler, Kan.

A SNAP

640 Acres of Land, well improved. 582 acres in good state of cultivation, every foot tillable; fine black wheat land. Last year's 1915 wheat crop made 47 bushels per acre. Good 5-room house, big barn, lots of sheds and outbuildings. 3 miles from town. Price, \$35.50 acre. Will trade for Kansas wheat land. What have you to offer? For further information write to
JOHN YOUNG, OWNER, PAMPA, TEXAS.

When writing to advertisers, please mention **Kansas Farmer.**



Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

All are architects of Fate,
Working in these walls of Time;
Some with massive deeds and great,
Some with ornaments of rhyme.

For the structure that we raise,
Time is with materials filled;
Our todays and yesterdays
Are the blocks with which we build.

Build today, then, strong and sure,
With a firm and ample base;
And ascending and secure
Shall tomorrow find its place.
—Longfellow.

Beware of Black Canning Rubbers.
Housewives are warned not to use the black rubber rings that are frequently given free with new jars for canning. They are made of a cheap grade of rubber and contain tar. The tar flavor may get into the fruit or vegetables and consequently cause serious loss and disappointment. Gray, white, or red rubbers of good grade are recommended. New rubbers should be obtained for vegetables and fruit, but old rubbers may be used for jellies and marmalades.—Home Economics Dept., Nebraska College of Agriculture.

Childish Ways Become Life Habits.
If the child is selfish at his play and cheats in order that he may win the

game, unless he is convinced that this is wrong and a change takes place in him, it is more than likely that in his mature years he will be undependable and tricky and will care only for those interests which are self-centered.

A few days ago we watched two playmates who were racing on roller skates. As they neared the goal, the "loser" attempted to throw the other boy who was only a foot ahead, hoping to thereby win the race. Contrary to his plan, it was he who was surprised with a fall, and while he was tumbling, his playmate crossed the line, winning the race honestly and in spite of his efforts to steal it.

How often we know or hear of men who in their dealings with others answer the description of these two boys. The one type with only one object in view—that of gaining glory, wealth, or position for self—bolts ahead thoughtless of the results of his unfair methods by which he seeks to win, and many times finds that the final blow dealt his fellow in the hope of putting him out of the race, reacts to his own injury and fall.

It seems a long way from a school-boy's race to a life career, but in reality

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. 7710—Ladies' Waist: Cut in sizes 34 to 42 inches bust measure. An individual style to slip on over the head, having the back gathered to a yoke. The front slash, giving rather a low neck, points a collar in contrasting goods edged with lace and related in its trimming to the cuffs on short sleeves. **No. 7731—Boys' Suit:** Cut in sizes 2 and 4 years. Picturing the newest in boys' suits, this model shows a collar of neat and comfortable cut, in contrasting goods and cuffs of sleeves harmonizing. The closing of the plain waist is in the back. The trousers have side fastening. **No. 7704—Ladies' Blouse:** Cut in sizes 34 to 42 inches bust measure. Especially suited to stout figures, this blouse will find favor because of the comfortable and well-fitting lines. A shallow yoke front, V-neck at the back, darts at waist line to better shape the figure, and the finishing of the armholes and neck with edge, are the noticeable features. **No. 7723—Ladies' Working Set:** Cut in sizes 36, 40 and 44 inches bust measure. To give the air of a business suit to a working outfit is indeed art—this model proves it with its belted coat banded at the neck and down front where the closing is made. The skirt is cut in three gores. **No. 7296—Ladies' Skirt:** Cut in sizes 22 to 36 inches waist measure. Specially suited to the needs of stout women, this plain walking skirt is made with either raised or regulation waist line and with side front closing. The material is plain about the body and flares at the lower edge. **No. 7265—Ladies' Dress:** Cut in sizes 34 to 44 inches bust measure. This practical frock shows on the new straight skirts. This is made with four gores, gathered at the top and attached to the blouse with either high or normal waist line. The blouse has a plain back, but the fronts are gathered along the shoulder seam.

PURE BRED POULTRY

LEGHORNS.

PURE BUFF EGGS, \$3.50 hundred. Jessie Crites, Florence, Kan.

PURE-BRED SINGLE COMB BROWN Leghorn eggs, \$3 per hundred. Mrs. F. E. Tonn, Haven, Kan.

SINGLE COMB BROWN LEGHORNS—Pullet mating only. Tiff Moore, Osage City, Kan.

PRIZE WINNING SINGLE COMB WHITE Leghorns, one-half price. Eggs, 3c; chicks, 7c. Guaranteed stock, \$1 each from good layers, Ferris strain, that pay \$7 per year per hen. **Clara Colwell, Smith Center, Kan.**

DUCKS AND GESE.

ENGLISH PENCIL RUNNER DUCKS—Eggs, twelve, \$1; hundred, \$5. Frank Hall, Toronto, Kan.

PURE WHITE RUNNER DUCKS—STOCK and eggs for sale. Satisfaction guaranteed. **Mrs. H. E. Halle, McCune, Kan.**

ORPINGTONS.

SINGLE COMB BUFF ORPINGTONS—Eggs from large vigorous farm range birds, \$1 per setting, \$4 hundred. Martha Brown, Parkerville, Kan.

BUFF ORPINGTONS—STRICTLY FANCY matings, splendid winter layers. Eggs, \$1.15 per fifteen, prepaid. **J. F. Cox, Route 23, Topeka, Kan.**

PLYMOUTH ROCKS.

BARRED ROCKS—72 PREMIUMS. STOCK sale. Eggs half price. Italian bees. **Matte A. Gillespie, Clay Center, Kan.**

UTILITY BARRED ROCKS AT BERMUDA RANCH. Eggs, fifteen, \$1; hundred, \$1. **Frank Hall, Toronto, Kan.**

BUFF ROCK EGGS, FRISCO WORLD'S Fair championship stock, \$1.50 and \$3 per fifteen. **C. R. Baker, Box F, Abilene, Kan.**

EGGS FROM BLUE RIBBON BARRED and White Rocks, \$1 to \$3 for fifteen. Write for mating list. Fine cockers and pullets for sale. **H. F. Hicks, Cambridge, Kan.**

BRED TO LAY BARRED ROCKS—EGGS from selected farm stock, \$1.00. Special matings headed by ten-pound exhibition cockers, \$3.00. **C. D. Swaim, Geuda Springs, Kan.**

WHITE PLYMOUTH ROCKS STILL hold their popularity. Barring one, they were the largest class at the World's Fair at San Francisco. Good to lay, good to eat and good to look at. I have bred them exclusively for twenty-four years and they are one of the best breeds extant. Eggs from first-class birds, the same kind I hatch myself, \$2 per 15, \$5 per 45, and I prepay express or postage to any part of the Union. **Thomas Owen, Route 7, Topeka, Kan.**

TURKEYS.

WHITE HOLLAND TURKEY EGGS, \$2.50 per twelve. **W. F. Teague, Collyer, Kan.**

MAMMOTH WHITE HOLLAND EGGS, sired by 37-pound tom, \$3 eleven. **Jessie Crites, Florence, Kan.**

RHODE ISLAND REDS

SIX PURE-BRED R. C. RED ROOSTERS, hatched last year, for immediate sale, cheap. **Mrs. Howard Martindale, Madison, Kan.**

S. C. RED EGGS—LARGE BONE, DARK red, from prize stock. Write for prices. **Mrs. Elmer Nicholson, Route 6, Wellington, Kan.**

SINGLE COMB RED EGGS—HUNDRED, \$3.50; thirty, \$1.50. **Mrs. Rosa Janzen, Geneseo, Kan.**

ROSE COMB RHODE ISLAND REDS—Won second at Illinois State Fair and first at two county shows. Four grand matings for 1916. Eggs, \$1.50 to \$4 per setting. Write for mating list. **A. W. Hibbert, Damar, Kan.**

EGGS AT SACRIFICE PRICES AFTER May 22nd from our six grand pure Rose Comb Reds mated to roosters costing \$15.00 to \$35.00; 15 eggs, \$1.50; \$3.00; \$2.50; 50, \$4.00. Pure-bred range flock \$3.50 per 100. Also good hens and roosters cheap. Catalog **W. R. Huston, Americus, Kan.**

BABY CHICKS.

YOU BUY THE BEST BABY CHICKS, guaranteed, at Colwell's Hatchery, Smith Center, Kan.

PURE-BRED ROSE COMB RED BABY chicks, 10c each. **Mrs. C. E. Hill, Toronto, Kansas.**

REDS, BARRED ROCKS, BUFF ORPINGTONS from free range flocks, \$15 per hundred. **L. E. Castle, 1920 W. Maple, Wichita, Kan.**

WYANDOTTES.

WHITE WYANDOTTE EGGS FROM prize winning stock, \$1.80, thirty; \$4.50 hundred. **Mrs. Will Beightel, Holton, Kan.**

BRAHMAS.

LIGHT BRAHMAS, REDS, ROCKS, Wyandottes, guineas, Toulouse geese, stock and eggs. **Emma Ahlstedt, Roxbury, Kan.**

POULTRY WANTED.

BROILERS, SQUABS, DUCKS, TOM turkeys, roosters and hens wanted. **Cops loaned free.** **The Copes, Topeka.**

Cards—Free

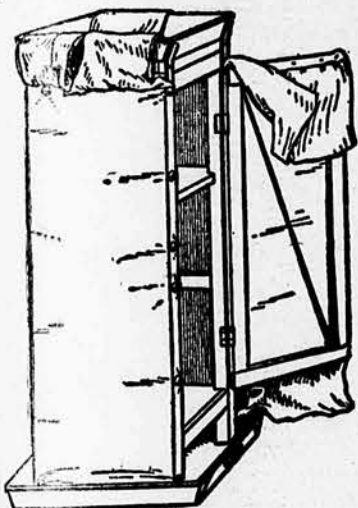
If you will send us the names of ten persons who are not now subscribers to **KANSAS FARMER**, we will send you a set of **Twentieth Century Travel Cards** free for your trouble. Address **KANSAS FARMER, Travel Dept., Topeka, Kansas.**

the two are on the same road, only a few miles apart and reached in the same way. The principles of integrity, planted in the young life, bear rich and abundant fruit in maturity.

Iceless Refrigerator

The time will soon be here when the housewife will have a real problem in trying to keep food cool and palatable. The iceless refrigerator here shown will prove a great convenience and is especially adapted to those sections where the air is sufficiently dry to permit free evaporation. The instructions following are those of the U. S. Department of Agriculture, given in its Weekly News Letter:

A companion convenience to the fireless cooker for the hot summer days is the iceless refrigerator, or milk cooler. This consists of a wooden frame, covered with cotton flannel or some similar material. It is desirable that the frame be screened, although this is not absolutely necessary. Wicks made of the same material as the covering rest in a pan of water on top of the refrigerator, allowing the water to seep down the sides. When evaporation takes place the heat is taken from the inside, with a consequent lowering of the temperature. On dry, hot days a temperature of 50 degrees can be obtained in this refrigerator.



HOME-MADE ICELESS REFRIGERATOR

ator. The following description will aid in the construction of this device:

Make a screened case 3½ feet high with the other dimensions 12 by 15 inches. If a solid top is used, simply place the water pan on this. Otherwise fit the pan closely into the opening of the top frame and support it by 1-inch cleats fastened to the inside of the frame. Place two movable shelves in the frame, 12 to 15 inches apart. Use a biscuit pan 12 inches square on the top to hold the water, and where the refrigerator is to be used indoors have the whole thing standing in a large pan to catch any drip. The pans and case may be painted white, allowed to dry, and then enameled. A covering of white cotton flannel should be made to fit the frame. Have the smooth side out and button the covering on the frame with buggy or automobile curtain hooks and eyes, arranged so that the door may be opened without unfastening these hooks. This can easily be done by putting one row of hooks on the edge of the door near the latch and the other just opposite the opening with the hem on each side extended far enough to cover the crack at the edge of the door, so as to keep out the warm, outside air and retain the cooled air. This dress or covering will have to be hooked around the top edge also. Two double strips one-half the width of each side should be sewed on the top of each side and allowed to extend over about 2½ or 3 inches in the pan of water. The bottom of the covering should extend to the lower edge of the case.

Place the refrigerator in a shady place where air will circulate around it freely. If buttons and buttonholes are used on the cotton flannel instead of buggy hooks, the cost should not exceed 85 cents.

Gooseberry Catsup.

As a sweet relish to be served with meat, gooseberry catsup has few equals. Put up a few pints of it this season and see if you do not share this opinion.

5 pints gooseberries
5 pints sugar
1 cup vinegar
1 tablespoonful cloves
1 tablespoonful or more ground cinnamon.

Put enough water on berries to almost cover. Place spices in a small cloth sack. Boil berries, sugar, and spices until thick. Add vinegar and boil few minutes longer. Can and seal.

KANSAS FARMER

For the improvement of the Farm and Home



THE KANSAS FARMER is the great farm weekly of the Great Southwest. Has been published continuously since 1863 and is the oldest farm paper west of the Missouri River. It is the most carefully edited farm paper in the West, from the standpoint of practical information. Both the editor and associate editor were reared on Kansas farms and have made a life study of the conditions in the territory covered by KANSAS FARMER. It is the absolutely reliable guide for the practical farmer—"the paper of real help."



EVERY WEEK comes fifty-two times a year, filled with the best stories, pictures in colors, financial articles, health articles, stories of the theater, and a wealth of interesting material. It is a magazine every member of the family will enjoy and value.

THE PEOPLE'S HOME JOURNAL



PEOPLE'S HOME JOURNAL is a magazine of fiction. It publishes stories written by the most famous writers in the world. They will entertain you every month if you will be a subscriber to this magazine. There is a complete novelette in each issue. These stories are so varied, absorbing and interesting that you simply cannot miss a single one. You will also find departments on cooking, care of children, departments for entertainment, and newest fancies in needlework. PEOPLE'S HOME JOURNAL touches every part of life in the home.



Today's Magazine

Today's Magazine will give you many hours of pleasure. Every number is like the visit of a welcome friend. It radiates helpfulness and good cheer, and drives away the blues. For the latest styles, delightful stories, money saving and labor saving ideas, TODAY'S MAGAZINE is the leader. It is a real necessity to every woman who has at heart the health, welfare, progress and happiness of her family. Women everywhere are talking about TODAY'S MAGAZINE.

Today's Magazine is a magazine of fiction. It publishes stories written by the most famous writers in the world. They will entertain you every month if you will be a subscriber to this magazine. There is a complete novelette in each issue. These stories are so varied, absorbing and interesting that you simply cannot miss a single one. You will also find departments on cooking, care of children, departments for entertainment, and newest fancies in needlework. PEOPLE'S HOME JOURNAL touches every part of life in the home.

It was in a country store in Arkansas. A one-gallus customer drifted in.

A Big Money Saver

All Four For Only \$1.50

—Our Great Summer Offer—

HERE is the biggest offer that KANSAS FARMER has given its readers for a long time. For a short time only we can offer, through special arrangements with the magazine publishers, a combination of KANSAS FARMER, Every Week Magazine, Today's Magazine, and People's Home Journal, for only \$1.50. Read carefully our big offer and the descriptions of each magazine in this club. We are sure that you will be pleased and will act quickly on this tremendous bargain.

Kansas Farmer

KANSAS FARMER is the great farm weekly of the Great Southwest. Has been published continuously since 1863 and is the oldest farm paper west of the Missouri River. It is the most carefully edited farm paper in the West, from the standpoint of practical information. Both the editor and associate editor were reared on Kansas farms and have made a life study of the conditions in the territory covered by KANSAS FARMER. It is the absolutely reliable guide for the practical farmer—"the paper of real help."

Every Week

EVERY WEEK comes fifty-two times a year, filled with the best stories, pictures in colors, financial articles, health articles, stories of the theater, and a wealth of interesting material. It is a magazine every member of the family will enjoy and value.

\$3.00 For Only \$1.50

Peoples Home Journal

PEOPLE'S HOME JOURNAL is a magazine of fiction. It publishes stories written by the most famous writers in the world. They will entertain you every month if you will be a subscriber to this magazine. There is a complete novelette in each issue. These stories are so varied, absorbing and interesting that you simply cannot miss a single one. You will also find departments on cooking, care of children, departments for entertainment, and newest fancies in needlework. PEOPLE'S HOME JOURNAL touches every part of life in the home.

Today's

TODAY'S MAGAZINE will give you many hours of pleasure. Every number is like the visit of a welcome friend. It radiates helpfulness and good cheer, and drives away the blues. For the latest styles, delightful stories, money saving and labor saving ideas, TODAY'S MAGAZINE is the leader. It is a real necessity to every woman who has at heart the health, welfare, progress and happiness of her family. Women everywhere are talking about TODAY'S MAGAZINE.

Read This Big Offer-----It Saves Money

Here is \$3.00 worth of magazines for only \$1.50. This great production is made entirely for the benefit of the readers of KANSAS FARMER. Hardly, if ever, has there been so much value offered for so little cash. We urge upon every reader the necessity of writing at once in order to take full advantage of this big bargain.

This offer is open to all—new or renewal. If your subscription is now paid in advance, we will extend it one year.

Address KANSAS FARMER, Topeka, Kans.

Ginger Snaps.

1 cupful molasses
¾ cupful shortening
¾ cupful flour
¾ teaspoonful soda
1 tablespoonful ginger
1½ teaspoonfuls salt

Heat molasses to boiling point and pour over shortening. Add dry ingredients mixed and sifted. Chill thoroughly. Toss part of mixture on floured board and roll as thin as possible. During rolling, bowl of mixture should be kept cool or more flour will be needed, making snaps hard instead of crisp and short.

It was in a country store in Arkansas. A one-gallus customer drifted in.

"Gimme a nickel's worth of asafetida." The clerk poured some asafetida in a paper bag and pushed it across the counter. "Charge it," drawled the customer. "What's your name?" asked the clerk. "Honeyfunkel." "Take it," said the clerk. "I wouldn't write asafetida and Honeyfunkel for five cents."

Summer Fashion Book, 10 Cents.

As owing to the large number of departments, it is not possible for us to illustrate the very many new designs that come out each month, we have made arrangements to supply our readers with a quarterly fashion catalog illustrating nearly 400 practical styles for ladies,

misses and children, illustrating garments all of which can be very easily made at home. We will send the latest issue of this quarterly fashion book to any address in the United States, postage prepaid and safe delivery guaranteed, upon receipt of 10 cents.

"An heirloom," explained the farmer's wife to her thirteen-year-old boy, "is something that has been handed down from father to son, and in some instances is greatly prized."

"I'd prize these heirlooms I'm wearing," remarked the youngster, "a great deal more if they wasn't so long in the legs."



Don't Abuse Your Tractor

Let it do the work for which it was intended. It will do it if you will use the proper lubricating oil. An oil of the correct lubricating body to minimize friction. An oil that maintains that correct lubricating body even under extremely high temperature conditions.

Get Stanolind Gas Engine Tractor Oil

It minimizes friction and eliminates the usual trouble of scored cylinders. This oil is made expressly for the lubrication of tractor engines, where kerosene is used as fuel. It is equally efficient for lubricating bearings of all types of harvester machinery and for heavy gearings of tractors.

Standard Oil Company

72 W. Adams St., (Indiana) Chicago, U.S.A. 43

ARE YOU READY?

Are you all fixed to handle your grain this year so as to get highest prices? Don't unload your wheat on the market at low prices—use business judgment. Hold for the high prices.

Tung-Lok Grain Bins

Best and most practical on the market. Made of yard seasoned wood—all cut to exact sizes, grooved and tongued—just like the famous TUNG-LOK Silo. Easiest to erect—no "expert" help required—put one up in less than a day.

Better Than Metal—And Far Lower in Cost

Metal Bins sweat and rot contents. They warp and bulge—are easily damaged—they are terribly expensive. TUNG-LOK Bins never sweat and will last a lifetime. Low in cost. Perfect storage under all conditions. **Free Book** Write at once for big Free Book and learn how you can double your profits. **TUNG-LOK SILO & TANK CO., 843 Interstate Bldg., Kansas City, Mo.**



SUNSHINE IN YOUR HOME AT MIDNIGHT



If we can show you that we have the simplest, cheapest, easiest to operate, cleanest and absolutely fool-proof home, store, church or school Lighting System, will you let us send you our illustrated circular with prices, terms and testimonials regarding the Lake Lighting System? It is cheaper than coal oil and used for both lighting and cooking. You wouldn't be without it, once you try one; lasts a life time; easy and simple to operate. You will be surprised at the low cost. Successfully operated ten years, thousands in use.

Address LAKE GAS SYSTEM MANUFACTURING CO., L. B. Lake, Inventor and Manufacturer
1004 Frederick Avenue, St. Joseph, Missouri

This Useful Outfit Given to Subscription Helpers

1 Butcher Knife - - - - - 1 Meat Cleaver
1 Meat Saw

THREE-PIECE IDEAL MEAT SET

Given as a premium to anyone sending a club of three NEW subscribers to KANSAS FARMER at the special trial rate of 50 cents to January 1, 1917.

USE THIS ORDER BLANK

KANSAS FARMER, Topeka, Kansas.

Gentlemen: Inclosed please find \$1.50 to pay for the following three new trial subscribers to KANSAS FARMER for the rest of 1916.

NAME OF NEW SUBSCRIBER	TOWN	STATE
1.....
2.....
3.....

In return for my help you may send me, postpaid, the Ideal Meat Set.

Name..... Town..... State.....

CORN, ALFALFA AND LIVE STOCK

THE PROFIT-PRODUCING COMBINATION.

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

X. Care, Kansas Farmer



Do Not Crowd Chicks

YOU need to be on the lookout these days to see that your growing chicks are not too crowded. They are growing very rapidly, and the coop that was ample in size for them a few weeks ago, is too small now, and larger quarters should be provided for them.

Many fine chicks are materially injured by crowding. They are growing rapidly and are greedy, caring more to get all they can, regardless of the wants of the others. They crowd, and tread on and pick each other till we find our once promising flock is looking decidedly ragged. Separate them according to sizes, giving the weaker ones a chance, for we may find our best fowls among them.

The coops should be enlarged as the chicks grow older. The cockerels should be separated from the pullets when they are three months old. But if you don't wish to keep these cockerels for breeders next year, it would be better to sell them at once, and give the pullets a better chance to thrive and prosper. But be sure that all growing chicks have plenty of room at night to be comfortable. If not you will eventually find many of them deformed with crooked breast or keel bones, and otherwise injured.

Don't let your chicks out too early in the morning when the dews are heavy.

Storms and wet weather are now prevalent, and the chicks should be protected from them.

A few good precautions acted on in time will prevent many a calamity among your brood of chicks.

During the hot summer months comes a time in the life of a chick when it gets listless and dumpy. Then is the time for the poultryman to tempt its appetite with a change of diet. Provide plenty of shade, fresh water and a change of feed quite frequently. If you would have fine fowls in the fall, you must keep the chicks growing right along.

Give fresh and clean water to the fowls several times a day, and especially let the first drink in the morning be clean water. Water standing over night during warm weather is liable to be full of dust, poison and parasites. These are not good for chickens. Fowls should have all the pure water they can drink, for they drink a great deal in summer, and when fresh water is not furnished to them they are apt to drink any foul water that is accessible to them. This is bound to cause trouble by breeding all manner of diseases.

It is a good plan to teach your chicks to heed your call, so that with a pan of feed you can get them into their poultry houses or coops on the approach of a storm. This matter of shoeing the chickens into their coops when a storm comes is a nuisance. They scatter to every part of the yard, and it takes as many persons as chickens to house them, whereas if you have taught them to come at your call, you can place the feed in their coops and the chicks will go in when you can close them up till the storm is over.

Sell Surplus Stock

It is very important to dispose of all surplus stock, for here is where there is a great leak in the poultry business—the feeding of unprofitable stock. Now that the laying period is about over, you will have lots of old hens for sale, hens that you do not need for breeders next year. The dealers in poultry in Topeka are paying fourteen cents a pound for them these days. Sell them by all means. If you have any old roosters on the place, get rid of them at once, the dealers are paying good prices for them. There is a scarcity of broilers in this market and prices of thirty cents a pound and over are being paid for broilers. Sell them now, when you can get a good price for them, and save paying out good money for feed.

Proper Feeding

The principal business of the poultryman these days is to see that the chickens are growing and thriving. But this

is no small matter, though it may seem easy. It won't do just to hand out feed to them morning and night, they must be looked after during the whole day. You will find a sick one here and an ailing one there, and these must be attended to. The cause of their ailments must be ascertained so as to avoid a general derangement of the whole flock.

By finding out what ails a sick chick, you often can prevent a general epidemic of sickness. Sometimes it is lice that bothers the chick. This can be remedied by dusting with insect powder. Sometimes it may be indigestion, and this can often be remedied by changing the feed and providing plenty of grit. Oftentimes the chicks are overfed. The results of such feeding are indigestion, liver trouble, leg weakness, and bowel complaint. The light foods should be fed in the forepart of the day and the heavier or more solid grains in the evening. There is nothing better for last feeding at night than wheat and kafir for growing chicks. These may be mixed with cracked corn and small seeds, and you will have a most excellent ration for night feeding.

One can readily see the necessity for heavy foods at night and the lighter ones during the early part of the day. The chicks have a long night in which some nourishment must be provided. If they have a full crop of grain when they go to roost, this will last them till the first feed in the morning. During the day the rations are coming in at stated intervals, and the crop always has a supply of food ready for the gizzard to grind.

If you will look after these things, you will pass through a successful season with chicks. If you do not give attention to the signs of danger, you will be in much trouble from time to time. Do the work in a proper manner and give the chicks the best of care, for they will pay you well for all the labor you have been at, later on.

Blood Meal

"Will you please give some information in regard to the merits of blood meal as a feed for laying hens, in the columns of your paper? Also which is the best for this purpose, blood meal or meal made from the blood, bones and flesh? One poultry supply house advertises beef meal made as above. Is this blood meal a good feed for young chicks and laying hens? Is it a healthy ration or apt to cause disease?"

Answer.—Blood meal or dried blood is an excellent addition to the laying ration, and if the hens are confined and have no access to bugs and insects, they must have some form of meat in order to lay well, and blood meal is as concentrated a substance as can be found. If a pure article, made from the blood, bones and flesh, can be procured, it is better still, for it is better balanced than the dried blood alone. But many of the beef meals are mere tankage, with all life and substance squeezed out of it. Dried blood is not so liable to be adulterated as beef meal. A little dried blood is good for young chicks. It is fed in the mash, either dry or moist. When fed dry there is apt to be some loss as compared to the moist mash, for the particles of dried blood are so small that they are hard to pick up, unless mixed with some other feed. Too much blood meal is neither good for chicks nor fowls, for it must be remembered that it is an extraordinarily condensed form of animal food. If fed twice a week it will be all right. If fresh beef bones, with meat adhering to them, could be procured and ground up in a bone cutter, no better meat ration could be fed to fowls or chicks, but every poultry raiser cannot afford to buy a bone cutter, hence must fall back on the next best thing, blood meal or beef scraps.

Getting Rid of Lice

General disease slays its thousands of chicks every season, but lice slays its tens of thousands. And whereas a good many diseases cannot be prevented before calamity comes, lice can be eliminated if the proper precautions are taken in time. Of course, the main way of preventing the lice from getting a foothold is to keep the poultry house perfectly clean. If the coops and houses are kept scrupulously clean there will not be much danger from the ravages of lice.

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A mason with two or three helpers can erect the National Tile Silo in a short space of time. Write today for information and prices.

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Your Time Our Money

If you will give us the former, we will pay you the latter.

We would like to have you look after subscription renewals and new orders for KANSAS FARMER, the oldest farm paper west of the Missouri River, full of farm information. Just a farm paper—no political, religious or race subjects discussed. Will pay you liberally for so doing. Territory arranged to suit. If you are interested, address

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White Plymouth Rocks

Hard to beat as all-purpose fowls. Excellent layers, with yellow legs and yellow skin. Eggs, \$2 per 15, \$5 per 45, express or postage prepaid. Have bred them exclusively for twenty-four years.

THOMAS OWEN, Route 7, TOPEKA, KAN.

THE STRAY LIST.

TAKEN UP—BY CALVIN PRIEST IN South Brown Township, Edwards County, Kansas, on the first day of April, 1916, one 2-year-old steer, color black; two dim bars above marks unknown on right hip. Appraised at \$40. Florence Erwin, County Clerk, Kinsley, Kan.

TAKEN UP—BY L. D. BIMUS OF Scott Township, Scott County, Kansas, on the 21st day of May, 1916, one gray pony mare branded on right hip; one bay pony mare with white streak in face; one sorrel pony mare branded on right shoulder with letter T. Appraised at \$25 each. John L. Whitson, County Clerk, Scott City, Kansas.

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Do you want to move to Topeka to educate your children? If you do, this modern five-room home near Washburn College will just suit you. New, only occupied ten months. A choice location. Must sell quick. \$3,200 takes it. Address S. CARE KANSAS FARMER, TOPEKA.

but we are sorry to say that as a rule, they are not kept clean, and the first signs of lice are seen when chicks are drooping and dying in the yards.

In many instances lice and mites exist on fowls and chicks without being discovered, but with the experienced poultry keeper these pests are easily found. Frequently two or three chicks in a brood are discovered to be weaker than the others, and these will be almost sure to have ten times the number of vermin on them as the strong, healthy ones have. One way of accounting for this is that the weak chicks do not have the strength and energy to dust themselves, and thereby get rid of the insects. More chicks are killed through the ravages of vermin than most people suppose. It is impossible for chicks to thrive when covered with lice or mites.

Chicks that are badly infested with lice have rough looking feathers, eyes pale and sunken, the beak and head appear too long for the body, and they have a general droopy appearance. Even when the young chickens appear strong, examine them closely for lice; if any are found, dust the chick with some good live powder. Sometimes not more than one may be seen, but you may be sure that if there are any at all, there will soon be more. If many are discovered, dust the chick two or three times; the second or third time five to seven days after the first or second dusting.

When dusting chickens for lice, spread a newspaper on a table or box, and lay the bird on its back; then part the feathers, and work the lice powder well in; turn the bird over and rub the powder well into the ends of the flights among the quills; then after they have been thoroughly dusted, the powder may be brushed from the surface on to the paper and used on the next chicken. In this way none of the lice powder will be wasted.

If you attend to this dusting in time it will save you lots of trouble later on. Sometimes the lice have got such a hold on the chick as to have sucked out most of its vitality, and it will hardly recover from its effects. Of course, prevention is better than cure, and as we have said, if you will only see that the coops and houses are kept perfectly clean and thoroughly fumigated, you will not be bothered so much by lice.

Give Eggs Proper Care

The following suggestions are given in a Kansas Experiment Station circular:

Gather the eggs often, and keep them in a cool, dry place all the time until they are sold. It was found by the government egg expert, while working in Kansas, that out of 385 clean, infertile eggs that were collected twice a day and kept in a cave or cellar that was cool and dry, until they were taken to town, and kept out of the sun on the way to town, 375, or 97.4 per cent, were "firsts" when candled.

At the same time, out of 479 clean but fertile eggs which were allowed to remain in the nests until marketed, only 60, or 13.2 per cent, candled out first class. This is a long way from a perfect record, and is duplicated surprisingly often. Between these two extremes there are differences in degree.

Clean, infertile eggs taken from straw stacks gave only 29.1 per cent first-class eggs. Clean, infertile eggs from under a corn crib gave 70.8 per cent "firsts."

To produce first-class eggs all conditions must be right. Eggs, like milk, should be cooled just as soon as possible after being produced, should be kept cool, and should be marketed as soon as possible. Like milk and butter, eggs become tainted by odors, and should be kept away from onions, turnips, kerosene, or anything else having an odor.

Use the small, dirty or cracked eggs at home. Small eggs are just as wholesome for food as large ones. They can not be sold for so much as large ones, however, for they are not worth so much. Dirty eggs are also good if fresh, but do not look well. Because of this fact they are classed as "seconds." Cracked eggs will mold and spoil quickly. Eggs found in stolen nests are always of doubtful quality. It is better if you use them cautiously at home. By using the small, dirty and doubtful eggs at home it is possible to build up a reputation for first class eggs and add to your profits about 3 cents a dozen, or the difference in price between first-class and second-class eggs.

Cards—Free

If you will send us the names of ten persons who are not now subscribers to KANSAS FARMER, we will send you a set of Twentieth Century Travel Cards free for your trouble. Address KANSAS FARMER, Travel Dept., Topeka, Kansas.

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 800,000 readers for 4 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.

HELP WANTED.

LADY OR GENTLEMAN TO TRAVEL for old established firm. No canvassing. Staple line. \$18 weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

MEN AND WOMEN WITH SELLING ability earn \$3 to \$10 a day. Staple goods and straight business proposition. C. W. Carmen, Department D, Merchants Bank Bldg., Lawrence, Kan.

FARMERS WANTED—\$75 MONTH. MEN and women, U. S. government jobs. Short hours. Common sense education sufficient. Write immediately for list positions now obtainable. Franklin Institute, Dept. L 82, Rochester, N. Y.

CATTLE.

RED POLLED BULLS FOR SALE. P. J. Murta, Cuba, Mo.

450 FIRST CLASS HOLSTEINS AND Guernseys for sale. Edgewater Stock Farm, Fort Atkinson, Wis.

HOLSTEIN CALVES, 15-16THS PURE, \$20 each, express prepaid. Write us for Holsteins. "Edgewood," Whitewater, Wis.

GUERNSEY HEIFERS OF DESIRABLE breeding and promising development. Registered. Soon to freshen. J. W. Marley, Oswego, Kan.

HOLSTEIN COWS AND HEIFERS—TWO carloads. Fancy grades. What do you want? Paul E. Johnson, South St. Paul, Minn.

REGISTERED HOLSTEIN BULL, NINE months old; five of his dams averaged 106 pounds milk in one day, and eleven of them 30 pounds butter in seven days officially; \$100. Wisconsin Live Stock Association, Appleton, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for \$20 apiece. Frank M. Hawes, Whitewater, Wis.

GUERNSEYS OF ALL KINDS, ESPECIALLY high grade heifers and registered bulls. Klement Bros., our representatives, will drive you to the different breeders. This service furnished to all purchasers by Jefferson County Guernsey Breeders' Association. H. A. Main Secy., Fort Atkinson, Wis.

REAL ESTATE.

WANTED—FARMS. HAVE 3,357 BUYERS. Describe your unsold property. 679 Farmers' Exchange, Denver, Colo.

160 ACRES, 7 MILES MARYSVILLE. Trading point, school, churches near by. Eight room house, large hay and cattle barn, granary, other buildings; stock scales; good water. Howard Vail, Marysville, Kan.

FOR SALE—A MODERN HOME IN Topeka, located on a good street, near school and business district; two lots, modern seven-room house, barn, a choice location. Will sell at a bargain. No trades. Address Z, care Kansas Farmer.

PET STOCK.

BELGIAN HARES, ALL VARIETIES.—Pheasant eggs, goldfish, fancy pigeons. Good farm. J. W. Wampler, Garden City, Kan.

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PATENTS PROCURED. INQUIRE ABOUT our \$100 cash prize. Free advice. Free search. Free official drawings. Capital Patent Co., Dept. E, Washington, D. C.

SILOS.

MONOLITHIC SILO BUILDER, BUILDS a reinforced concrete silo on your ground. Manufactures every detail from chute to window. Any farmer can operate it. Only ten days to have complete silo set up and in use. Is absolutely a great money saver. Details, photographs and experiences of others sent you for the asking. Address E. H. Euler, 114 Kansas Ave., Topeka, Kan.

BEE SUPPLIES.

FOR SALE—BEE SUPPLIES. ROOT'S Good. Send for catalog. O. A. Keene, 1600 Seward Ave., Topeka, Kan.

HORSES AND MULES.

SHETLAND PONIES, GELDINGS, MARES and colts, all colors. C. H. Clark, Leocompton, Kan.

BERMUDA GRASS.

ACCLIMATED BERMUDA GRASS ROOTS—Bran sack full, \$1; six sacks, \$5. Frank Hall, Toronto, Kan.

WANTED

WANTED—TO HEAR FROM OWNER OF good farm for sale. Send description and cash price. R. G. List, Minneapolis, Minn.

TREES, SEEDS AND PLANTS.

NANCY HALL, DOOLY YAM AND Pumpkin Yam potato slips, any amount, from assorted seed, \$1.75 per thousand f. o. b. McLoud. Satisfaction guaranteed. Orders and correspondence solicited. L. M. Baker, McLoud, Okla.

PURE NANCY HALL POTATO PLANTS free from disease, shipped day order received. Millions ready. Two hundred, 50c; five hundred, 80c; per thousand, \$1.25. Everything shipped prepaid, either parcel post or express as wanted. J. S. Norman, Bentonville, Ark.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to anyone who has been getting poorer while the rich, richer. It demonstrates the real earning power of money, and shows how anyone, no matter how poor, can acquire riches. Investing for Profit is the only progressive financial journal published. It shows how \$100 grows to \$2,300. Write now and I'll send it six months free. H. L. Barber, 431-28 W. Jackson Blvd., Chicago.

KODAK FINISHING.

SEND FOR PRICE LIST. PAUL HARRISON, 818 Kansas Ave., Topeka, Kan.

DOGS.

FOR SALE—SCOTCH COLLIE PUPS. H. A. Ketter, Seneca, Kan.

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.

TANNING.

LET US TAN YOUR HIDE: COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frislan Fur Co., Rochester, N. Y.

SITUATION WANTED.

EXPERIENCED FARMER WANTS steady work on farm where house is furnished. Best of references. A. B. Cummings, 198 Twiss Ave., Topeka, Kan.

SPENCER, OHIO, May 22, 1916.

KANSAS FARMER, Topeka, Kansas.

Gentlemen: I am sending check for \$2.80 for advertising. Your paper is fine for my business. From an investment of \$2.80, I made over \$800. Good, isn't it? I want to be with you again. Thanking you, al am,

Yours very truly,

C. S. JEWELL

HOGS.

BIG-TYPE POLAND CHINAS. U. A. Gore, Seward, Kan.

CHESTER WHITE BOARS, SEPTEMBER farrow. Registered free. Prices, \$20. Henry Kamping, Elmore, Kan.

MISCELLANEOUS.

MONEY TO LOAN ON IMPROVED KANSAS farm lands. All negotiations quickly closed. No delays. A. T. Reid, Topeka, Kan.

BINDER TWINE, SISAL STANDARD, guaranteed. Price to farmers' organizations and dealers in carload lots, \$9.25 per hundred. Less than carload, \$9.50 per hundred; 2 per cent cash discount. To the individual, 10c. All prices f. o. b. Lansing. Freight same as Kansas City. Kansas State Penitentiary, Lansing, Kan.

FOR SALE—LATEST PLAT BOOK OF Shawnee County, 44 pages, size 14x19 inches. Shows each township in the county, with name of each property owner on his land, also rural routes, school houses, railroads and complete alphabetical list of taxpayers in county outside Topeka and Oakland. Satisfaction guaranteed. Cloth binding, \$5.00. To close out remaining Bristol board binding will sell a year's subscription to Kansas Farmer and Plat Book for only \$1.50. Last previous county map sold for \$10. Send all orders to Kansas Farmer, Topeka, Kan.

FARM AND HERD.

I. R. Burkey of Louisburg, Kan., is succeeding with his big-type Poland Chinas. At the head of this herd is the big-bone boar, Take-a-Look by Grand Look. This hog is assisted by a very promising young hog, Big King by A. King by Iowa King. Mr. Burkey has sired sixty spring pigs and has ten gilts bred for late farrow. He finds the big-type Poland China hogs and Short-horn cattle very profitable on his farm. He now has sixty culs from the Poland China herd in the feed lot. He never sells a poor individual for breeding, but ships them to the market.

E. E. Smiley of Perth, Kansas, owner of one of the choice herds of Chester White hogs, writes that he has the best lot of pigs this year that he has ever raised. They were sired by boars that are among the best of that breed now in service. They include White Lilly Bief by Chief Keokuk Battle, the boar that was second at the Missouri State Fair in 1915, and a choice grandson of Combination 2d. The dams are daughters of such boars as Grand Champion Frank, Combination Chief and Chief Select. Mr. Smiley breeds the kind that are profitable market hogs and his herd is made up of representatives of the best families of the breed.

HORSES AND MULES.**The Champion Breeder --- Missouri Chief 8365**

Sire of the World's Grand Champion Jack, Kansas Chief 8743
In public service at our ranch south of Ellinwood. Excellent facilities for handling any number of healthy jennets.

Write Us for List of Winnings of His Get.

Most liberal terms and other information about this sire possessing excellent size, quality, bone, finish, and unexcelled style and action. Winner first as sire at Kansas State Fair, Hutchinson, 1915.

M. E. RICHARDSON - STERLING, KANSAS

**DEIERLING STOCK FARMS**

Have fifteen large, heavy boned, black, registered jacks, 15 to 16 hands high, good heads and ears, good style, good breeders. I have a number of jacks sired by the champion, Fride of Missouri, also several other good herd prospects. In my 1914 sale I sold the champion of Kansas State Fair, 1915, Eastern Lightning, also Demonstrator, first prize aged Jack Missouri State Fair. Reference, Peoples Bank. Written guarantee with each animal. Have a number of Percheron stallions for sale, also saddle stallions. Barn in town. Wabash Railroad. **WM. DEIERLING, QUEEN CITY, MISSOURI.**

PERCHERON STALLIONS FOR SALE

A pair of coming fours and a coming three-year-old, two blacks and the other a bay, sired by the herd stallion Siroco (51358), which we sold to go to Northern Nebraska. They have the size, bone and quality, and are priced to sell.

A. M. DULL & SONS - WASHINGTON, KANSAS

POLAND CHINAS**POLAND CHINAS.****100 - BRED SOWS AND GILTS - 100**

ALL IMMUNE, BIG-TYPE POLAND CHINAS

FOR SALE—Sows and gilts bred for July and September litters. A few Receiver gilts bred to The Wonder by Long Wonder. A few gilts sired by First Metal and bred to Receiver Wonder. These are big stretchy gilts and will please anyone. Also a few October and November gilts and a few choice October boars. Can ship pairs or trios, not related. Prices reasonable. Come and see our herd. Over 700 registered hogs on the farm.

THE DEMING RANCH, OSWEGO, KANSAS

Two Miles from Town.

H. O. Sheldon, Herdsman.

HENRY'S BIG-TYPE POLANDS

Fall boars, also gilts bred or open, sired by Mammoth Orange. Spring pigs by Mammoth Orange and Big Bob Wonder.

JOHN D. HENRY, Route 1, Lecompton, Kan.

POLAND CHINAS

For Sale—A few large type bred gilts; all vaccinated by the double process. Price reasonable for quick sale.

A. J. SWINGLE - Leonardville, Kansas.

OLD ORIGINAL SPOTTED POLANDS

150 choice spring pigs left, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM

A. S. Alexander, Prop., Burlington, Kansas

LANGFORD'S SPOTTED POLANDS.

Mr. Farmer, look this way. Pigs ready to ship. **T. T. Langford & Sons, Jamesport, Mo.**

SHORTHORN CATTLE.**VAIL HERD SHORTHORNS**

For Sale—Four Scotch-topped bulls, eight months old, all reds. They are extra good. Priced at \$100. First check gets choice.

W. H. VAIL - HUME, MISSOURI

SHORTHORN BULLS

For sale, two bulls, 10 and 11 months old; solid reds, sired by Brompton's Son. Price, \$125. First check gets choice.

SULLIVAN BROS. - MORAN, KANSAS

HILL'S SHORTHORNS

One red Shorthorn bull 11 months old, sired by Bettie's Albion 399451, pure Scotch, well built, weight between 600 and 700 pounds. Ready for service. Priced to sell.

C. E. HILL - TORONTO, KANSAS

Sycamore Springs Shorthorns

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

H. M. HILL - LAFONTAINE, KANSAS

RIVERSIDE SHORTHORNS

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

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

SHORTHORN BULLS

Four young bulls, nine to eleven months old.

C. E. CASHATT, OSKALOOSA, KAN.

Askew's Shorthorns

Registered Shorthorns, bulls and heifers, reds and roans. Bred and raised on Clover Lawn Farm. Main line Missouri Pacific.

C. W. ASKEW & SONS, UTICA, KANSAS

LOWEMONT SHORTHORNS.

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

YORKSHIRES.**YORKSHIRE SWINE**

Cholera-immuned young stock of the best type and breeding for sale. Prices always reasonable.

DONALD R. ACKLIN, Perryburg, Ohio

OHIO IMPROVED CHESTERS**IMMUNE O. I. C. PIGS**

ALVEY BROS. - MERIDEN, KANSAS

Choice August and September Pigs

Weight 125 pounds, \$25. Booking orders for spring pigs, \$15 each; pair, \$25; trio, \$35. Registered. Express prepaid anywhere in Kansas. **F. C. Gookin, Route 1, Russell, Kan.**

CHESTER WHITE PIGS.

Write for breeding and prices.

E. E. Smiley, Perth, Kansas.

**Losses in Marketing Hogs**

THE following figures were compiled by the manager of the provision department of one of the Kansas City packing houses, and quoted in the Drovers' Telegram:

"During the week ending Saturday, May 20, 241 hogs, on account of their crippled condition, were thrown out of our regular droves and sold as 'crips', and as such averaged about \$1 under perfect hogs, or say about \$2 per hog. But many have to be sold 'subject,' which means if they fail to get by the government inspector the shipper loses still more—possibly \$15 per hog, and it is estimated 10 per cent fail to pass, so that for the above week there were about 25 on which \$15 each was lost and 216 on which they lost about \$2 each, making a total for one week of \$807. If, therefore, this average is used for the 52 weeks of the year, it means a yearly loss of just about \$42,000. The question, therefore, presents itself—can the hog shippers coming to Kansas City afford to throw away \$42,000 through careless handling of hogs? We think not."

With hot weather almost here and the danger of overheating increasing with every twenty-four hours it behooves the men preparing to market their hogs, and the men who handle them when they get to market, to turn their thoughts to the comfort of the animals.

Humane treatment at the country loading chutes and the market are worth dollars to the shipper.

Hogs are slower in summer than in winter because of the heat. Patience is needed in their handling if the best prices are to be secured for them, because the buyers insist that the animals must be in first class condition when received.

It is the club users, the kickers, and the men in too big a hurry that send bruised and crippled hogs to the market, and those bruised and crippled hogs are the cause of lower prices for the men who put their time and their money into them.

The owners are the chief losers at the hands of the club wielders and the pole prodgers.

For several years steps have been taken to stop much of the cruelty to hogs and this has resulted in a great lessening in the suffering of the animals on their way to market.

Continued co-operation is needed, however, between the shippers, the railroads and the men in the stock yards.

There are a number of "don'ts" that can be observed with profit at the present time. Just a few of them follow:

Don't drive the hogs too rapidly.

Don't be in too big a hurry to load. Start in time.

Don't lose patience.

Don't forget that a bruised or crippled hog hits the shipper's pocket book.

Don't beat or shove the hogs because they do not happen to move quite fast enough to please you.

Don't throw water on the back of an overheated hog. Sprinkle the floor of the car or pen instead.

Cruelty to hogs is clearly shown in the meat of the animals after they are prepared for market. Bruised backs and hams do not sell so readily as the clear meat, and future shipments from the

source of the injured animals will suffer in consequence.

Notices have been sent out and are posted in the various stock yards and about the loading pens and chutes of the railroads, urging humanity in the treatment of live stock.

The shipper cannot expect the other men who help to handle his hogs to be more careful than he is himself. He can well afford to consider carefully the suggestions here given.

Better Stock in Cloud County

The following item from a news letter sent out by Karl Knaus, agricultural agent of Cloud County, shows how live stock improvement can be brought about in a community:

"Charles Ashley, R. V. Warren, and Melvin Parker, of Oakland and Meredith Townships, have pooled their interests and invested in a pure-bred Hereford bull. By so doing they have obtained a better individual than any one of them alone felt like buying to use on a small herd. This is a very good way for a neighborhood to improve the live stock at small cost to each individual. A. Q. Holbert has recently disposed of a grade stallion and now has a pure-bred. George Palmer, of Miltonvale, recently shipped in a carload of high-grade and pure-bred Holstein cows and heifers. Several of these were sold to his neighbors. He also bought a Holstein bull of high producing strain. This certainly is a boost to the dairy industry in that community."

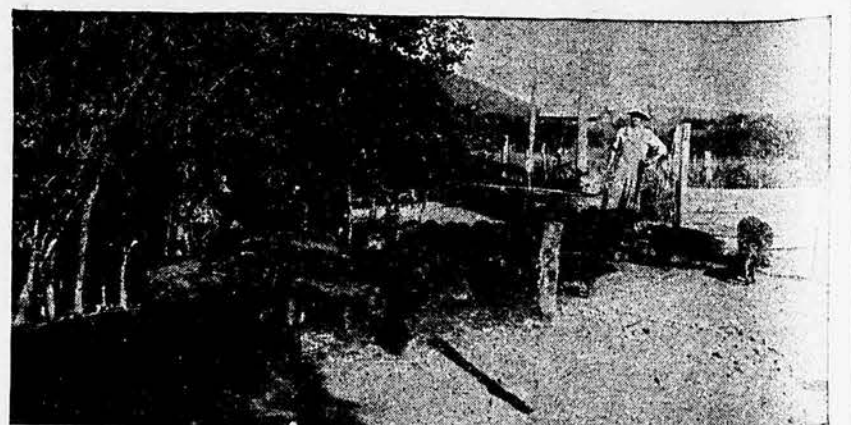
Profitable Cattle Ration

Shelled corn, alfalfa hay and cottonseed meal gave the fastest gains and greatest profit of any of the six rations fed in the recent cattle feeding experiment at the experiment station at Lincoln, Neb. The other rations fed the different lots in the experiment were: Shelled corn and alfalfa; ground corn and alfalfa; shelled corn, alfalfa, and silage; shelled corn, alfalfa, silage the first four weeks, and Tarkio molasses feed the last fourteen weeks; and shelled corn, alfalfa, and cottonseed meal the last six weeks.

The sixty head of two-year-old steers used in the experiment were bought for \$6.75 and were sold at prices ranging from \$9.50 to \$9.75, or at a net profit of over \$1,100. The cattle were fed in an open lot and under conditions similar to those found on the average corn belt farm.

Develop breeding heifers by feeding a proper grain ration in connection with the roughage. The roughage should include alfalfa and clover hay and silage in order to develop bone and muscle and produce a large framed, healthy heifer, fit to become a mother at the age of two years.

The officers and directors of the American Royal Live Stock Show are making plans for the sixteenth annual show. The date set is October 2 to 7 and it will again be held in Convention Hall. Robert Hazlett of El Dorado is president of the board of directors.



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