

KANSAS FARMER

For the improvement  of the Farm and Home

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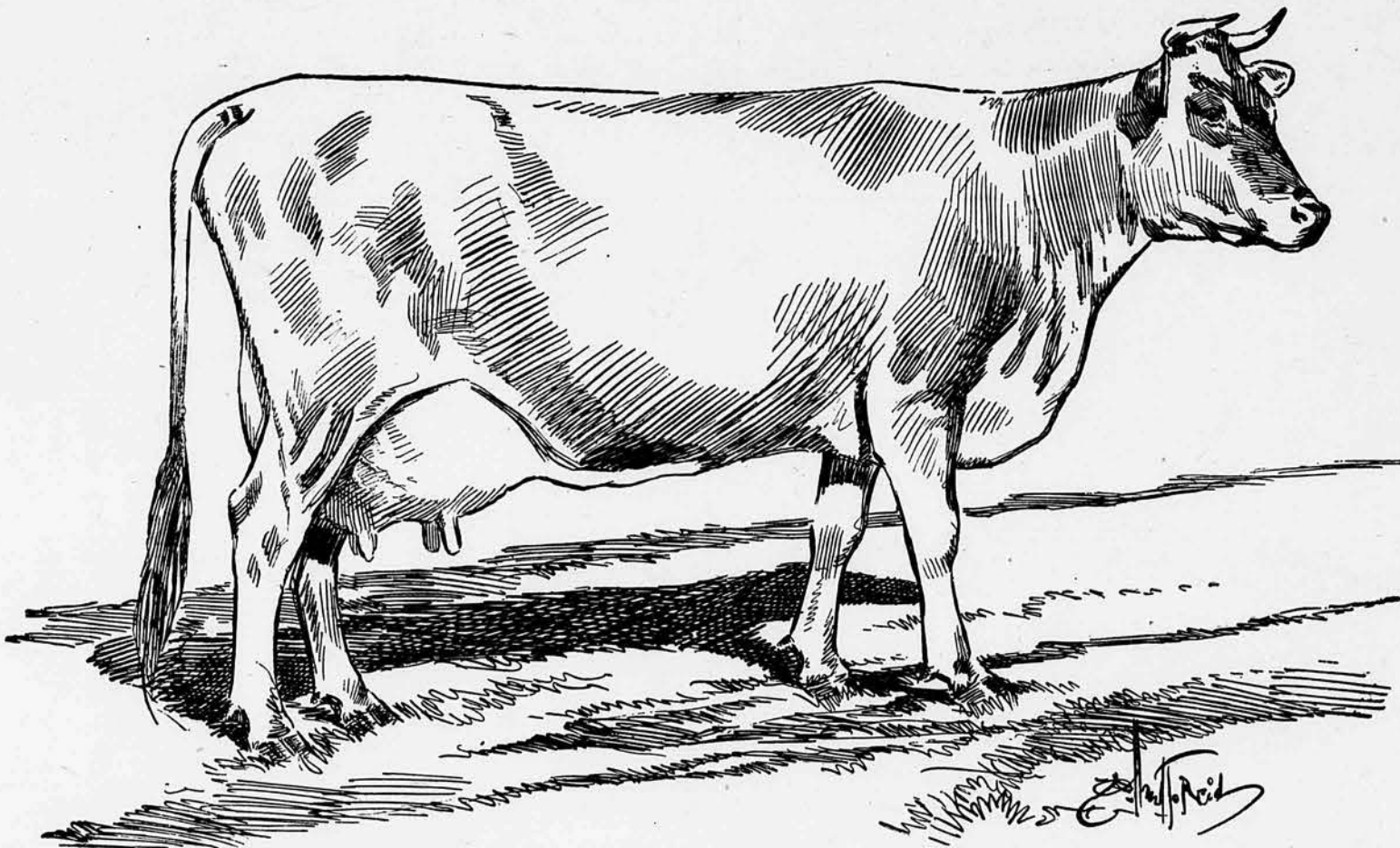
Established 1863. \$1 a Year

THE cow will make a factory of every farm if given a chance. On every hand cornstalks and other by-products of grain farming are going to waste. A fertilizing value of \$375 is represented by the feed which a cow will convert into a ton of butter that removes but a few cents' worth of fertility from the farm.

The cow is a hard worker, but she charges nothing for the privilege of transforming the corn, alfalfa, and other farm feeds into one of the best foods known to man. What greater work could be expected of a domestic animal?

The product of the cow is a crop that never fails if we do our part. The dairy pay check comes each week and helps to put farming on a cash basis.

Not every farm is adapted to dairy farming as a specialty, but there is scarcely a farm where a small herd of cows would not be highly profitable as a side line. G. C. W.



*Sophie Nineteenth of Hood Farm, the World Champion Jersey Cow,
Record One Year 999 Pounds Butter Fat, Five Years 3,752.6 Pounds*

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THE LITTLE FELLOW WITH THE BIG PULL

15 Draw Bar H. P.—35 Belt H. P.

The Sandusky Tractor is increasing profits and reducing costs on hundreds of farms, large and small, throughout the country. It will do likewise for you in practically every operation ranging from the clearing and breaking of new lands to the hauling of your crops to market.

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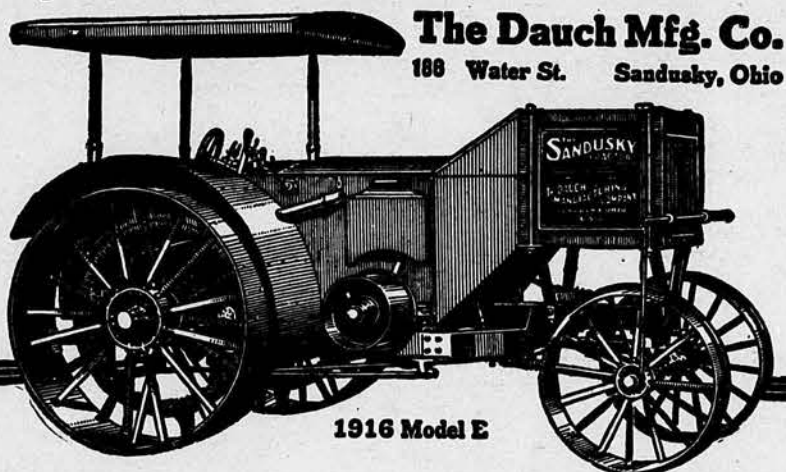
We guarantee The Sandusky Tractor to handle four 14-inch mold board plows 8 inches deep where a big team can pull a 12-inch plow 6 inches deep; to run belt machinery up to 32-inch separator; to have one-third reserve over drawbar rating, and for one year against defective workmanship and material.

Equipped with our own four cylinder, four cycle, 5 x 6 1/2 heavy duty, slow speed, vertical motor; 2 1/2 inch crankshaft; 31 inches of motor bearing surface; all four bolt bearings; positive self-contained combination force feed and splash oiling systems. Motor set crosswise to frame eliminating objectionable bevel gear drive; removable underpan permitting taking up or replacing bearings, connecting rod, rings or entire piston without disturbing any other part of tractor. Three speed selective transmission, 2 to 5 1/2 miles per hour with direct drive on low; three point spring suspension; all steel construction; light weight; small overall dimensions and short turning brakes; easily handled; surplus cooling capacity.

The Sandusky Tractor, its motor, and transmission were each awarded the Gold Medal at the Panama-California Exposition. Also highest award Silver Medal at Society for Improvement of Agriculture Exposition, Lancashire, England.

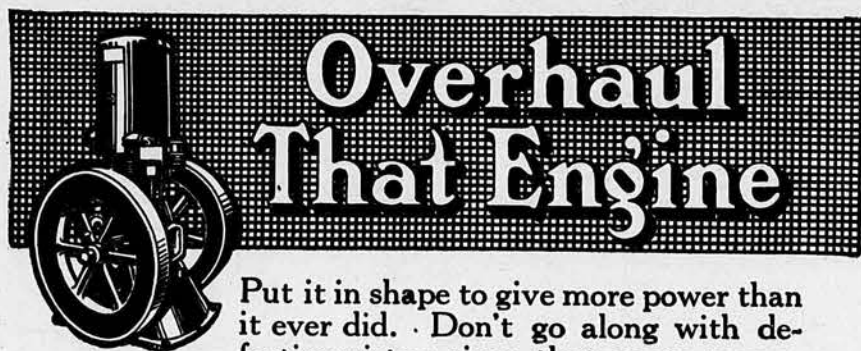
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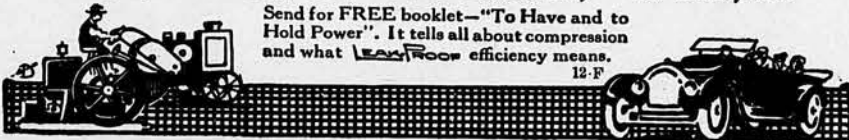
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Send for FREE booklet—"To Have and to Hold Power". It tells all about compression and what LEAK-PROOF efficiency means.



MENTION KANSAS FARMER WHEN YOU WRITE.

BRAKE AND CLUTCH

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

SOMEONE has figured out that one family in every twelve in the United States owns an automobile and that 67 per cent of all autos sold are purchased by farmers. It is thought, however, that the number will stand one to every eight families before the end of 1916. The growth of the automobile industry the last ten years is shown in the following sales of passenger cars: 1905, 33,896; 1906, 52,462; 1907, 67,389; 1908, 85,846; 1909, 125,592; 1910, 175,800; 1911, 209,957; 1912, 378,261; 1913, 450,000; 1914, 515,000; 1915, 703,527. The proportion of motor vehicles to population of the United States is one car for every forty-eight persons. The proportion of motor cars to miles of improved road is one to one.

Headwork.

A Columbus motorist drove his car up to a shoe store, stopped in front of a fire hydrant and incurred danger of a \$25 fine thereby.

A policeman, chancing along, saw the car, took its number and then waited for the motorist to appear. Just as he stepped from the store, the motorist sized up the situation, went back in and telephoned the police chief that his car was stolen; then he hurried over to his office.

The policeman got the report of the stolen car from headquarters, reported it and was thanked by the chief, who in turn was complimented by the motorist. —Goodrich Magazine.

High Tension Distributors.

Distributors on high tension ignition are only a specialized commutator adapted to high voltage current. They are necessary on all multiple cylinder engines where one transformer coil and battery, or a high tension magneto, is the source of electric current. When individual coils are used, no high tension distributor is required. A timer in the primary circuit is necessary, its function being to send current through the individual coil that has a high tension lead to the firing cylinder. A timer differs from the distributor in the grade of insulation required. As the timer deals with current of from six to twelve volts pressure, the insulation need be of very ordinary strength. A few sheets of mica, or fiber washers, serve the purpose. The distributor must handle current of from 10,000 to 40,000 volts pressure. The insulation must be of the best, either hard rubber or lava composition. This insulation must positively prevent any leakage to other contacts than the one which leads to the firing cylinder. Its brushes or segments that make contacts for the several cylinders must run in step with the engine so as to furnish current to the right cylinder at the right time.

The Small Tractor.

L. W. Lighty, writing for the National Stockman and Farmer, says: "Farmers are asking if the tractor is advisable on a farm of 150 to 200 acres. I would consider the matter carefully before I would invest in a tractor for a small farm. The tractor does good work where you have room to use it, but in small fields we have not the room to use it economically. I am a great admirer of the tractor and I hope the small farmer will have one ere long that will work in a satisfactory way in limited areas. On these farms we have two or three teams to do the work. If we get a tractor we should need only one team. The tractor should handle most of the implements we now have successfully. We cannot discard all our implements and invest in others adapted to tractor work. We must have a tractor adapted to our implements and conditions. The horse is an expensive animal on the farm because we have to keep too many to do the work when the rush is on and have to feed them when idle the rest of the season. The farm management man (theoretically) has figured all this out for us and advises us to keep fewer horses or provide work for them, and his theory is correct if he would only show us. On many farms there is no solution of the question of horse power like the tractor, and on the large farms it is being adopted rapidly and will be adopted more rapidly on the small farm when we have the tractor that will be satisfactory and can be had at a reasonable price. Who will fill this long-felt want? A fortune certainly awaits him and what is better, the good will and blessings of the masses."

Purpose of Spark Coil.

J. N. P., Brown County, asks why the current from the batteries of a gasoline engine must pass through a spark coil. Also whether or not it makes any difference how the batteries are connected.

It is necessary to have some knowledge of electricity to understand the function of the spark coil. The current developed by four or five cells is weak in intensity. It would take 80 to 90 cells to furnish a current strong enough to produce a spark that would ignite the charge in the cylinder without the intervention of the spark coil. With the coil, the four or five cells will give the desired hot spark. The coil is simply a large electro-magnet. When the current from the battery passes through the coil the soft iron wires becomes strongly magnetic and remain in this condition as long as the current from the battery is passing through the insulated copper wire of the coil. If the current is interrupted as when the spark points break apart, the magnetic force in the soft iron wires is at once lost. This passing of a current of electricity of low voltage through the copper wire, induces a current of high voltage in the core or secondary coil. This secondary current is of sufficient intensity to jump across the gap and produce the spark. Some have mistakenly assumed that a coil was a storage or reservoir of electricity. If this were true, the longer the current passed through the coil the stronger would be the spark produced. This is not the case. All that is done is simply to create a force in the iron core and get its reactive effect as a generated current of electricity added to the weak battery current at the instant the circuit is broken. It has been determined just how much winding is needed and how much soft wire is needed in the core to give the proper current with a given number of battery cells.

There is only one correct way to connect up cells for ignition work. The carbon pole or center binding post of one cell should be connected to the zinc pole or outer binding post of the next, and the carbon of the second to the zinc of the third, and so on, until the last cell is connected. Then from the zinc pole of the first cell carry a wire either to the coil or to the engine frame. Carry another wire from the carbon pole of the last cell to the engine frame or the coil, depending on where the first wire was connected. Now from the other post on the coil carry a wire to the switch, and from the switch to the fixed or insulated electrode of the make-and-break plug.

Causes of Carbon Deposits.

What is termed "carbon deposit" on piston heads, cylinders, valves and spark plugs, may be due to the following causes: Incomplete combustion, defective or incorrectly timed ignition, road dirt or dust, or too much oil.

Incomplete combustion is generally brought about by an incorrect mixture of fuel-vapor and air, due to a badly adjusted carburetor.

Faulty timing of valves and unsuitable fuel will also cause incomplete combustion in the cylinder if the muffler, or silencer, is clogged, or the exhaust is retarded by too small exhaust valves.

The magneto breaker, which makes the spark, should be timed to ignite the compressed fuel charge with piston in correct position on compression stroke. Otherwise, the combustion will be incomplete and carbon deposit will result.

Road dirt or dust is drawn through the air intake of the carburetor into the cylinders and forms a base to which any excess quantity of lubricating oil will readily adhere. The soot or carbon resulting from imperfect combustion then has a foundation on which to build. In time the deposit will increase so that preignition will take place, caused by the glowing carbon; knocking of the engine will result. The valve seats will become coated, preventing the valves from seating properly, with a resultant loss of power.

If carbon deposit results after the use of a properly selected high grade oil, it is due to oil passing the piston rings and reaching the top of the piston, where it is burned. This may be caused by ill-fitting piston rings; worn cylinders overfed with oil by too great an oil pressure; abnormal supply to the wrist pins in full force feed system; or the oil level being too high, where the splash system is employed.



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LEAVENWORTH BUREAU MEETS.

The farmers of Leavenworth County who were the first to organize a farm bureau in Kansas, are losing none of their enthusiasm. Last Saturday the rooms of the Chamber of Commerce were filled to overflowing, the occasion being the annual meeting of the bureau. A dinner was served at the National hotel, following which came the report of County Agent Ross, and addresses by others.

Great benefits have come to Leavenworth County from the work of the bureau members and their efficient agent. The members have conducted demonstrations of many kinds under his direction. Alfalfa has been successfully introduced on many farms. Farms have been tile-drained and thus made more profitable. The effectiveness of hog cholera vaccination has been most conclusively shown, and live stock farming—especially dairying—has increased. The splendid work Mr. Ross has done among the young people and in the schools is a most important part of what has been accomplished. Every farmer in the county has been permitted to receive the benefit from the various demonstrations. Field meetings have been open to all, and have been widely advertised.

Farmers who were opposed to the idea in the start, have gradually become interested in the work as they have observed it at these meetings, and have identified themselves with the bureau. Mr. Ross, in his report, emphasized the need for co-operation between merchant and farmer, and showed how the Leavenworth County bureau fosters this spirit.

Three more counties—Doniphan, Geary, and Johnson—have joined the list of those organizing farm bureaus. These movements have originated in the counties. No effort is being made from the outside to put agricultural agents at work in any county. The benefits of the farm bureau are becoming so apparent that there is no need to urge its organization. Where there has been any opposition it has nearly always come from a misunderstanding regarding the work and purpose of the farm bureau.

SPRAYING PROFITABLE.

Orchardists may feel disposed to get along without doing much spraying this year on account of the high cost of spray materials. The benefits to be derived from proper spraying are so great that it will be profitable even though copper sulphate may cost as much as 25 cents a pound. At this price, 15 to 25 gallons of Bordeaux to a tree in three applications, will cost from 30 to 50 cents. Two applications of lime and sulphur will increase this to 50 to 70 cents a tree. This seems expensive in comparison with previous costs, but two bushels of good marketable apples at 50 or 60 cents a bushel, would pay almost double the cost of the spraying. Without the spray the fruit will be poor in quality and only a small per cent of marketable apples will be matured.

The materials for spraying have been costing at the rate of about one cent for the quantities required to make a gallon of the dilute spray. The war has caused the price of copper sulphate to soar and the prices of other materials have been affected also. However, the fruit-grower cannot afford to dispense with the usual spraying. In the interest of economy, it should be done thoroughly and at the right time. It is always a waste of material to make the application a week late. In view of the high cost of the spraying materials, it is of the greatest importance to apply the spray so as to get the maximum benefit.

REAL FARMER DEFINED.

The farmer making a success in a financial way, who regards money-making as a secondary consideration, is an exception. On the farm, as in every other walk of life, there is a great lack of ideals. The rush for dollars too often engrosses the attention. The following definition of the real farmer by one of Wisconsin's rural leaders, sets up a high ideal for the man who tills the soil:

"And who is this Real Farmer? The man who farms, simply to see how many dollars he can get out of his year's labors? Not for a moment. That is all

too narrow a conception of the Real Farmer. Rather, it is the farmer to whom farm life and farm surroundings constitute the ideal of human happiness; the farmer who knows as well how many children he has as how many cattle and hogs; the farmer to whom it is as great a pleasure to find in his rambles afield a

baby calf, colt, lamb, or litter of pigs, with attendant manifest maternal affection, as it is to grasp the price of a fatted steer; the farmer who finds satisfaction in binding up a broken leg and oftentimes succeeds when the veterinary said, 'Oh, shoot it; setting will never succeed;' the farmer to whom every horse,

dog, cat and even the diminutive bantams look to, and justly so, as a friend; the farmer who finds pleasure in the realization that a great part of his mission is to feed the world—this type alone constitutes the Real Farmer."

DIGGING FOR HIDDEN TREASURE.

We sometimes overlook the real things in seeking for treasure of some unusual kind. There are localities in Kansas where boring for oil is the all-absorbing topic of conversation, and ordinary, every-day duties are being neglected. We were told recently of a little community in Kansas where a movement had been started to bring in a hundred well selected dairy cows. These cows would have added a money-making feature to the farming of that locality that was being largely overlooked. There is nothing spectacular about the cow as a money-maker, but every day she will take the feed and in some mysterious way will convert it into that wonderful product—milk. It is a much more sure source of income than is a possible oil well. In this little community the dairy cow idea was being worked out and it seemed as though a new enterprise was about to be launched. But the oil boom struck and the men who had been talking dairy cows, began to gather on the street corners and talk oil. Leases were entered into with oil companies, and all were filled with that speculative fever—that hope of striking oil and getting rich quick. It was the death of the dairy cow enterprise. The cow, with her every-day return, rain or shine, is not likely to be given a chance to add any revenue to these farms—this season at least.

We are reminded of an old German fable. It is related that an old man on his death-bed, told his sons that his treasure was in his vineyard. The vineyard was old and neglected. The sons, having a dream of a pot of gold, dug up the vineyard from one end to the other without success. One of them proposed that since they had failed to find the gold, they proceed to make the most of the vineyard. The results of all the digging they had given it, made it bring forth most bountifully, and it dawned upon them that the results of this careful tillage was the treasure to which their father had referred.

Some may get rich as a result of striking oil, but the great majority who are neglecting enterprises of such known value as dairying and diversified farming, for these waves of passing enthusiasm, will be the poorer for their side-stepping.

KANSAS ALFALFA TO VERMONT.

Shall we ship our farm products in the form of raw material, or finished? From an economic standpoint, the factory should be located where the raw material is produced. Our farms should be operated more on the factory order, the products sold being cream, butter or eggs, instead of alfalfa or corn.

The dairy cow is one of our most efficient machines for converting alfalfa and other Kansas feeds into money. We find dairymen in other states who are shipping feeds produced on our farms and competing with us in dairy products. A dairy farmer from Montpelier, Vermont, visited Dickinson County last fall and contracted for a large quantity of alfalfa hay at \$10 a ton, this to be shipped to his dairy in Vermont. Inquiry developed that the freight would amount to \$12 a ton, and to that must be added an additional charge of \$2 a ton for hauling the hay from the railroad station to the farm. This hay was therefore costing \$24 a ton laid down at this Vermont farm, and he was converting it into milk and butter fat under conditions far less favorable than are found where the hay was produced. His market was little, if any, better than that of Central Kansas. The price he was receiving for milk was the same that was being paid in some parts of Kansas, and he secured only two cents a pound more than the Kansas price, for butter.

Learning of such an incident makes us feel that we are missing some of our opportunities. An enterprise so profitable that it can stand the handicap of shipping raw material from Kansas to Vermont, is worthy of serious consideration.

Boys and Girls Show Interest in Kansas Farmer Dairy Club

IT was to further stimulate and encourage the growing interest in dairying that KANSAS FARMER planned The Kansas Farmer Dairy Club. The idea has been under consideration for several months. As was stated last week, many banks are willing to loan money to a number of boys and girls in their respective communities in order that they may become members.

THE FIRST BOY ENROLLED.

Emanuel Weber, of Ellinwood, was the third boy to send in his application, but through the promptness of the Citizens State Bank of Ellinwood he becomes the first entrant. The bank wrote: "We endorse your plan and will be glad to make Emanuel Weber the loan in accordance with your instruction."

From J. W. Marley, of the Oswego State Bank, letters have been received heartily endorsing the club. The following extracts show how the club is being received in that locality: "I have your advice that William and Robert Perkins have applied for enrollment in The Kansas Farmer Dairy Club. These boys now have savings bank accounts with us and we will be glad to take care of their needs in this proposition. William was in to talk with me about it yesterday. He brought with him a neighbor boy—Beauford Grant—who has sent in his application. I have a few other boys in mind whom I would like to interest." In another letter Mr. Marley writes: "I have your advice that Miss Dora Brader desires to enroll. We will render this girl any possible assistance, loaning her the money to buy a dairy-bred cow and assisting her to find such cow if necessary." Miss Brader of Oswego is the first girl to enroll.

Leavenworth County expects to have a large number enrolled. In this county the farm bureau, through its agricultural agent, P. H. Ross, is co-operating with KANSAS FARMER and the banks in enrolling members and conducting the contest.

Boys and girls who enroll in The Kansas Farmer Dairy Club should save all that is said about it in the paper. In our issue of February 26 we told briefly of the plan of the club. In the March 4 issue we told of some of the possibilities of dairying, and how gladly the banks are co-operating so that the boys and girls may become members of the club. This week a most important lesson in dairy cow selection is given.

CONTESTANT MUST BUY COW.

Those who take part in this club must buy a cow that will be fresh some time before September 1. The bank co-operating will loan the money to buy this cow, taking a note, the debt to be paid from the products sold. The contestants can sell whole milk, sweet cream, or sour cream, handling their product at all times so as to get the largest possible profit from it. In the competition for prizes, however, the total butter fat production will be calculated at a uniform price for the whole state.

Some parent or guardian may wish to furnish a cow. This may be done, but the cow must be sold to the contestant and a note, drawing the same rate of interest as those given to the banks, must be taken. Impartial appraisers will place the value on cows so furnished.

LIST OF BANKS CO-OPERATING.

KANSAS FARMER now has the assured co-operation of over forty banks in this plan to interest young people of the state in dairying. The following are those not reported in our list of last week: First National Bank, Oakley; First National Bank, Fowler; First State Bank, Tribune; State Bank of Soldier; Farmers National Bank, Topeka; First National Bank, Holton; Citizens State Bank, Pratt; Welda State Bank; Peoples State Bank, Lawrence; Alta Vista State Bank; State Bank of Parsons; First State Bank, Healy; The State Bank, Miltonvale; The First National Bank, Parsons; First State Bank, Traer.

GENERAL DAIRY ITEMS

*Something For Every
Farmer Interested in
Milking Cows—Over-
flow Items From
Other Departments*

A GOOD udder, free from serious defects or deformities, is one of the most important points to consider in selecting dairy cows. Since the udder is the organ the function of which is the manufacturing of milk from the material brought to it by the blood, its relation to production is vital.

There are other considerations, however, that must not be overlooked. Cows will have small teats, teats with extra openings on the side, teats grown together at the base, extra teats developed on the sides of the udder. These defects are constantly being found and they are among the most readily transmissible characters. The cow with one of these defects is almost sure to transmit it to a considerable per cent of her female offspring. The only way to avoid such things in a dairy herd is to cull out such cows or heifers as have udders with any of these deformities. The udders of young heifer calves should be examined. If some of these more serious defects are found, it would be better to reject them at once than to take the chance of permitting them to introduce the character into the herd.

In picking out a bunch of young heifers from a herd, the udders should by all means be carefully examined. The dairyman of experience would hardly omit this important point. A heifer may be of the most desirable conformation and give promise of being a fine dairy cow, but still have such serious udder defects as would justify rejecting her entirely.

Substitute for Wheat Pasture.

Where wheat is grown extensively it is depended upon very largely for pasture during the fall and winter season. A dairyman who is also a wheat farmer, remarked to us not long since that his cows greatly missed the wheat pasture last fall. There has been very little wheat pasture this winter. We presume all who milk cows in the wheat belt have felt this lack of green feed during the fall and winter season. The man mentioned above has a silo, but he told us that even with the silage he could not get as good a flow of milk as when his cows had plenty of wheat pasture.

The possibility of cheap feed in the form of wheat pasture should encourage more farmers in the wheat belt to milk cows, but it is evident that it cannot be depended upon every season. In order to be on the safe side, ample provision should be made to supply other feed when the wheat pasture fails. After several years have been spent in getting together a good bunch of cows, it would be poor policy to be compelled to carry them through a winter season without receiving profitable returns. Feed crops should be grown and stored each year, either in the form of dry forage or silage. In either form these feeds can be carried over and fed at some future time when the need arises.

Feed for July and August.

A good cow ought to have a lactation period of ten or eleven months. The cow must have an abundance of milk-producing feed, however, for the whole period if expected to keep up the flow for this length of time. On too many farms milk-producing rations are not supplied for ten months of the year.

The cows will soon be going to grass. This is always a time of cheap feed and an abundant flow of milk. If good grass could be the feed for the whole year, there would be little excuse for good cows drying up at the end of four or five months. There are plenty of cows that are ten months milkers in so far as inherent capacity is concerned, but what are they going to eat in July and August that will keep them up to their maximum flow of milk? From our former experience we know that the pastures will not supply all that is needed during these months. Have we made any plans to tide over this period when palatable dairy feeds are almost sure to be scarce? Even on farms having silos there may not be any silage to feed during the late summer months. As yet, the summer silo is found on only a few farms. On farms where the silo has been provided for winter feeding, the summer silo is



Typical group of Ayrshire cattle.—owned by William Galloway

the next step toward insuring a maximum milk flow the year round.

There may be some who do not want to milk cows more than four or five months, but most men who take up dairying are not satisfied with the common "scrub" cows that give milk for only a few months of the year. There is not profit, however, in securing better cows—the kind that will milk ten or eleven months of the year—unless definite plans are made to provide them with good, palatable feed of the right kind. Where a silo stands empty through the summer season, it will pay to grow some very early variety of corn and put it into the silo as soon as it is sufficiently mature. There are varieties that will be ready for silage by July. Its feeding can begin as soon as the silage is stored, and if it is not all fed out by the time the main silage crop is ready for harvest, this can be stored on top of the emergency silage.

Perhaps there is no silo and no chance of getting one. The emergency crop can be grown just the same. It will be more inconvenient to feed it direct from the field, but good cows will give a quick response to some green fodder when other palatable feed is short. The point is, to think it out in advance and plan definitely for the feeding of the cows through these emergency periods.

Town and Country Co-operation.

The business men of a Kansas town decided last fall to raise \$10,000 to offer as a bonus to induce a manufacturing enterprise to locate in their town. Through a happy suggestion they were induced to change their plan and invest this money in 100 dairy cows. These cows were carefully selected and the farmers of the community who took them gave their notes in payment. The cows immediately began converting into money, farm feeds that had heretofore been wasted. A new and profitable enterprise has been developed in this community.

This spirit of co-operation which should exist between business men's organizations and the farmers of the surrounding community, was emphasized by J. D. Davis, a speaker at the recent meeting of the Illinois State Dairy Association. He said:

"In almost every city and town in the United States the business men, bankers, merchants and every clergyman belong to the Commercial Club. The duty of this club is to promote business in their city or town. They are willing to give a bonus to a manufacturing plant to come to their city. Why? Because this establishment will employ a number of men and women. More men and their families in the city mean more business to the members of this club.

"The policy is all right and should be encouraged, but this same Commercial Club overlooks the fact that adjoining the city are hundreds of manufacturing plants that are inefficient and are not turning out the quantity and quality of products they should and, hence, are not adding to the community as much wealth as they might.

"These plants are, the farms and the machines are the dairy cows that will take the feed produced on these farms and manufacture it into milk. These farms can be brought up to a greater efficiency by your Commercial Club becoming active in this work and establishing a department of Dairy Improvement. This department should give advice relating to dairying, bring the farmers

together at picnics, judge dairy cattle and dairying products and help the farmers in improving their stock by co-operative community breeding. The butter fat records and breeding records can be kept by an assistant secretary of the Commercial Club. The farmers that are in this co-operative breeding association can pay their dues to him and the Commercial Club will be more efficient to advance business in their local community."

Reference was made by this speaker to several instances where this sort of business co-operation between town and country had been brought about. In Trenton, Mo., the business men have rejuvenated their commercial club by getting the business men of the town and the country to working together. They feel so enthusiastic over the results that they call it the "Trenton idea." They say "it simply means that in this twentieth century of commercial supremacy and agricultural efficiency, the farmer and the business man must unite and co-operate in the fullest sense of the term."

"Through organized effort," said Mr. Davis, "you will be more able to assist in the selection, breeding and feeding of dairy cows, the building of silos and better barns. You should help also, to obtain the best prices possible for the cream."

We hope these suggestions may inspire more of such co-operation on the part of Kansas business organizations. Already many such groups have seen the vision and are working in harmony with the agricultural interests in their respective communities. The farmer must be recognized as supplying the chief source of income for the town. The development of profitable dairying in a community will mean the spending of more money because there will be more to spend. This is a broad foundation upon which to build business progress.

Tobacco as Insecticide.

We have been asked to explain the use of tobacco as an insecticide and also the meaning of the term "Blackleaf 40."

A strong solution of nicotine is very effective against such insects as woolly aphids and other plant lice. It is also used against thrips and leaf hoppers. It is a contact insecticide, and in applying it the spray must reach the insect.

"Blackleaf 40" is a trade name for a concentrated nicotine solution which is guaranteed to contain not less than 40 per cent of nicotine. It is handled by nearly all companies dealing in spraying materials. When the standard 40 per cent solution is used it should be diluted at the rate of 100 gallons of water to three-fourths or a pint of the concentrated solution. It can be used in connection with the lime sulphur spray. The addition of two or three pounds of soap to each 100 gallons of the dilute spray, increases its effectiveness.

Treatment of Cows.

Too few breeders and dairy farmers give the needed recognition to the basis on which the dairy industry is founded—the motherhood of the animal furnishing the milk. The Tartars milk mares; other peoples in other parts of the world milk goats, sheep, asses, buffaloes or deer. But milk and its products form one of the chief sources of food supply for the world; and as compared with the amount obtained from the modern cow, that obtained from all other animals combined is inconsider-

able. It is fitting that so gentle and lovable an animal as the cow should occupy so exalted a position. It is well that we have such a foster mother for human kind. But does her motherhood always receive recognition? Is she not often treated as if she were a mere machine, instead of a highly organized living mechanism for the conversion of feed into milk?

One of the most successful of the early Wisconsin dairymen had for his motto, "Speak to a cow as you would to a lady"; and when he was asked if he removed his hat when entering the stable door in the morning, he replied that he certainly would do so if he thought he could get more milk thereby. What owner, especially in testing, has not noticed that some one of his milkers was able to get more milk from the cows than were the other milkers? It is the personal equation, the regard the cow has for her attendant, that gives hand milking an advantage over the machine; and the more nearly the cow has adopted her milker in the place of her calf, the greater will be his success as a milker. There is usually a vast difference in results between the milker who gets a cow into position by pushing the leg of the stool into her flank and then kicks her on the shin to make her step back, and the one who gains the same end with patience and gentleness. Who can blame the cow for wanting to kick the first man?

Aside from the knowledge of how to feed in general and the study of the special wants of the individual cows, to attain the greatest success a man must win the affection of the cows. Some will say that this can not be done. But if the calf and growing yearling is treated gently and kindly, and then is stabled and handled before freshening like a cow, there will be no such thing as breaking the heifer to milk; she will take it as the regular thing. There have been those who have in good faith advocated music during milking, declaring that it had a quieting effect; and the idea gains some support at the dairy shows. It may be that as the poet says, "Music hath charms to soothe the savage breast." But the breast of a properly brought up dairy cow is not savage; and if it were a bull that had broken loose, had made up its mind that some one was going to get what was coming to him and was strictly on the job, I should prefer to do the soothing from the roof of the hog house and well out of reach.

If a person desires to install a music box in the stable, it may be that it will work all right; but the less of singing, whistling and loud talking there is, the better it will be. Indeed, talking of all kinds except the low spoken, soothing words of the milker to the cow should be prohibited. If a Holstein-Friesian cow be bred right and fed right, it is up to the milker to get the immediate return for the food consumed. No man who hates milking and dislikes cows can make any great success; there must be sympathy between the cow and the milker. When you see a cow that is fastened loosely enough at the neck, reach around and affectionately lick her milker as she would her calf, you may know that that man will get all the milk anyone can get. Motherhood and milk production go together. Treat the cow like a mother. Be kind; be gentle; it will pay and pay big.—MALCOLM H. GARDNER.

INCOME FROM DAIRYING SURE

Milk Cow Gives Daily Return—Furnishes Market For Unsalable Feed

By H. M. COTTRELL

THE dairy cow is the salvation of the family going to a new country with little ready money. The settler can set up his stove and bed in the new home and while his wife is getting supper, he can milk the cows and separate the cream with a hand separator. The next morning he can milk the cows and separate the cream while his wife is getting breakfast. That morning he can sell the cream from the two milkings, starting a weekly cash income within twenty-four hours of his arrival in the new home. Native grasses will feed the cows through the summer and forage crops that never fail in his section will keep the cows furnishing a steady cash income through the winter. Every family who goes to the West or Southwest to build a home should take 10 good dairy cows with them.

The great advantage the dairy cow gives the average farmer is the opportunity to market through her at a high price large quantities of bulky farm products that have a slow sale or are not salable. The farmer's chief interest and most of his cash income may come from raising staple crops like corn or wheat. To secure the largest yield of any of these crops, to reduce the cost of production and to employ his teams and implements to the most profitable extent through the year, he is obliged to raise a large acreage of leguminous crops like alfalfa, the clovers or cowpeas. Forage crops like cane, the kafirs and Sudan grass can be raised at little cost either as second crops, where poor stand of staple crops have been secured and for fields that are found every year on most farms that have to be planted late. These fertilizing and forage crops can be marketed at a good profit through dairy cows and another profit be secured from the manure.

A dairy cow converts into milk the materials absorbed by her body from her food. Many cows that are milked convert part of the digested portion of the food into milk and part into flesh. That portion that goes to make flesh yields no profit while the cow is being milked. A very large number of cows that are being milked give only a moderate supply of milk and do not put on much flesh. Their chief function seems to be to convert feed into manure.

A man of ordinary intelligence can, if he is interested, learn in half a day to select cows whose forms indicate that they will be profitable dairy cows. In this length of time he can learn the general features of cow structure that indicate that the cow having them will, when well fed, convert her feed into milk. He can spend a life time learning of minor points, each of which has its influence on the milk yield and profitable consumption of feed.

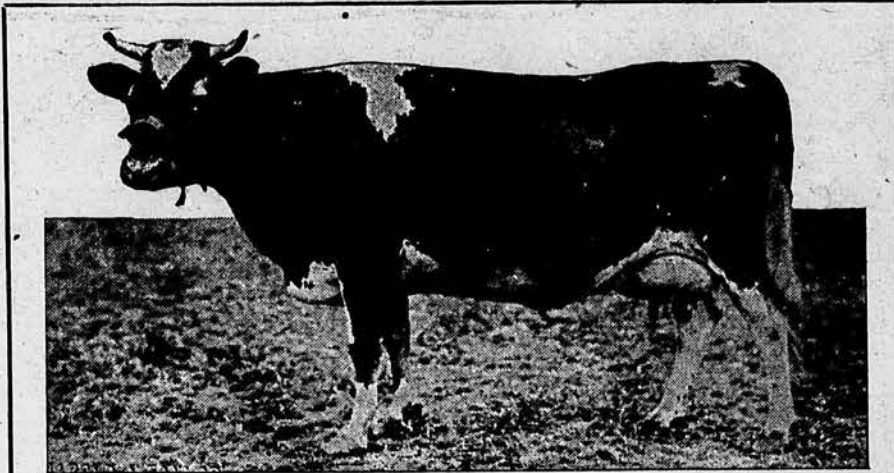
KEEPING RECORDS.

After dairy cows are secured whose forms indicate that they will be money makers, a record of the weight of the milk at each milking should be kept and the per cent of butter fat should be ascertained twice a month with a Babcock tester. It takes about one-half minute a day to weigh the milk of each cow and record the weight. An hour twice a month will make a Babcock test for butter fat of the milk of each cow. The necessity for weighing and testing for butter fat is that while cows may have the proper dairy formation of their bodies, they may have been mis-managed as calves or later so as to make them unprofitable.

Such tests pay. A dairyman was making a moderate profit from his herd. He decided to test each cow as recommended above. At the end of the year he found that one cow had returned 54 cents for each dollar's worth of feed eaten through the year, while another cow had returned \$2.29 for each dollar's worth of feed. In an investigation made by Hoard's Dairyman of 100 herds whose products were sold to the same creamery it was found that in 42 of the herds, the feed cost more than was received for the milk. One man milking 15 cows received 46 cents for each dollar's worth of feed that they consumed through one year, while a neighbor received \$1.67 for each dollar's worth of feed given his cows. Many men have tested their cows in this way and, by culling out their poor ones, have more than doubled the yield of butter fat a cow a year. Their herds have been changed from barely paying expenses to producing good profits.

SELECTING THE COW.

The breed is largely a matter of taste. There are money-making producers among the cows in every dairy breed and there are many, many pedigreed scrubs.



GUERNSEY HEIFER, FLEURETTE OF RIVERSIDE FARM.—RECORD, 13,065.5 POUNDS OF MILK AND 689.5 POUNDS OF BUTTER FAT IN ONE YEAR

If you buy a pure bred cow, purchase her for her ability to convert large quantities of feed into milk and butter fat at a profit and not because her pedigree is long.

The average farmer had better let pure bred cows alone. He has not had the experience to handle them satisfactorily. He had better start with a herd of grade or native cows that have good dairy forms and mate them with a pure bred dairy bull. The beginner in the dairy business is certain to make costly mistakes and he can make them cheaper with grade cows than he can with pure breeds. As the farmer grades up his herd by the use of pure bred bulls, the scales and the Babcock test, he will accumulate knowledge of how to select cows and how to feed and manage them at a good profit. When he has mastered the business, he will be ready to invest in pure bred cows.

Select the breed you like and stick to it. If you have a grade herd, always use bulls of the same breed. There is a general desire among American farmers to cross breeds with a view of combining the good qualities of both. This kind of crossing fails 999 times out of a thousand. A farmer wants to cross the Holstein and the Jersey so as to get a cow that will yield a large quantity of very rich milk. Once in a while such a cross produces the desired result, but generally the offspring yields a small quantity of thin milk.

Select a dairy cow with a large capacity for storing feed. This is indicated by an enormous paunch, long ribs well rounded and long space between the last rib and the hip bone. The farmer in the West and Southwest should feed bulky forage crops almost entirely to his dairy cows. He can afford little or no grain. For this reason he must select a cow that can consume daily a large quantity of coarse forage.

Select a cow with a sharp backbone, prominent hip bone and thin neck, shoulders and thighs. These points indicate that the cow converts her feed into milk and does not put flesh on her body.

Select a cow whose flank is arched high at the side of the udder. The higher up the flank is cut away, the more room for the udder. Stand behind the cow and see that there is no flesh between her hind legs almost up to the root of the tail. This absence of flesh leaves room for the udder and in a heavy milker, the back part of the udder is attached up almost to the root of the tail. In a good beef cow, that gives milk for a few months only while her calf is young, the flesh between the hind legs extends down nearly to the hocks.

Milk is formed from the blood as it passes through the udder. The greater the quantity of blood that passes through, the higher the milk yield. A large flow of blood is indicated by large milk veins, the large veins that extend from the front of the udder forward along the belly. If the cow is fresh see that these veins are large. They do not show so well in a dry cow. These veins enter the body through openings in the belly called milk wells. In a good dairy cow a milk well is usually as large as a man's thumb.

In learning to select a dairy cow, it is a good plan to put a cow that is known to be a high milk producer beside a cow that is particularly good as a beef animal. The contrasting points stand out strongly. Such a comparison will teach

the beginner more than the study of a dozen dairy cows without contrasting them with beef animals. After the main points are strongly fixed in the beginner's mind, he should examine closely as many dairy cows as he can that he knows are profitable animals. He will soon learn enough to be able to select cows having good dairy forms from among cows whose records he does not know.

SELECTING DAIRY BULL.

Most successful dairymen fall down in selecting dairy bulls. If you can win the confidence of an average good dairyman so that he will tell you all the truth, you may expect him to tell you that he has steadily increased the milk yield and profits from his cows by skillful feeding and by culling out the poorer ones. His bulls have been a disappointment. Only two out of the five he has used to head his herd have shown any influence in improving the yield and at least one sired heifers who uniformly gave less than their dams.

For this reason it is better for the beginner if he can to buy a mature bull whose heifers are better producers than their dams. An aged bull is a mean proposition to handle but is well worth the extra trouble when he is sure herd improver. When it is not practicable to purchase a tested bull, a young one of good form should be selected whose dam and the dam of whose sire are both profitable dairy cows.

Select a bull having the same general form as that required for the profitable cow; great length and spring of rib; large paunch capacity; well arched flank; flesh between the hind legs cut away nearly to the root of the tail; sharp backbone when the animal is in good flesh; prominent hip bones wide apart and cut hams and thin fleshed shoulders. The belly line should slope downward from the front legs to the beginning of the flank. The false teats or rudimentaries should be long and set widely apart as indicating that his heifers will have long udders with squarely placed teats. A bull should be masculine in appearance but to be a producer of high yielding heifers, he must have the dairy form.

Most dairy bulls are mean tempered and hard to handle. All dairy bulls are dangerous, no matter how gentle they may seem. The way most dairy bulls are kept makes them viciously insane. They are kept alone, away from their kind, in what is practically solitary confinement. Such treatment will make a maddened beast out of any vigorous animal. A dairy bull should be kept with the calves or dry cows so that he will have company. Always keep two rings in his nose so that when one breaks, he can be safely handled until the broken one can be replaced. Fasten a strong, light chain to the ring and make it long enough so that the other end will drag on the ground two feet behind his fore feet. The bull will have to step carefully or he will jerk the chain and hurt his nose. This keeps him under constant discipline and allows him freedom in pasture or feed lot. I had a seven-year-old dairy bull in my care that was so vicious that we had to use two poles and a rope to lead him out of his box stall. He had injured several men. I fastened a chain to his nose ring and turned him out with a lot of young bulls. He was glad to get back to his stall that night and we turned him out regularly

every day afterward without having any trouble. I have had success in handling many old and cross dairy bulls in this way.

MARKETING DAIRY PRODUCTS.

Few farmers should attempt to make butter. They do not have the knowledge or the best equipment and in most farm homes the mother is already overburdened with work without making butter. Many dairymen find it profitable to sell whole milk but most farmers had better get a hand separator. Sell the cream and feed the warm, sweet skim milk to calves, hogs and poultry.

Milk in a covered pail. If you have been milking in an open pail, get a covered one and see the dandruff, hair and filth that falls on the cover even in a clean barn where the cows are clean. It is sickening to think of it. Every dairyman who can afford it should use a milking machine. Machines with which one attendant can milk twenty to twenty-five cows an hour can be bought and installed for \$200 exclusive of power. A one-horse motor will run one. They solve the drudgery of labor, the milk is drawn into covered pails, anyone who can run a mowing machine can operate a milking machine and they are not hard to keep properly clean.

The milk should be run through the separator while warm from the cow. The cream should either be cooled at once by an aerator or else be placed in shotgun cans and these placed in cool water. The cream should not be allowed to get warmer than sixty degrees before it is delivered at the creamery and fifty degrees is better. In taking the can from the farm to the creamery or the depot cover the cans with a thick cloth well soaked in water and cover this with a dry cloth or tarpaulin.

Farmers in the West are losing from 3 to 8 cents a pound on butter fat because much of the butter fat throughout this great territory is not delivered in first class condition.

Selection of Breed.

Beginners in dairying are constantly asking which is the best dairy breed. We cannot answer this question in a general way. Under certain specific circumstances one breed might be preferred to another. There is a type of cow that is especially adapted to dairy production. This type is found in all dairy breeds. It is even found among common cows of mixed breeding. Such cows, however, are not so apt to transmit their own good producing qualities as is the cow pure in breeding or graded along a certain definite line. Without doubt, some breeds are better adapted to certain conditions than are others. These things should be given careful thought before definitely selecting a breed. The personal inclinations also have a bearing on this question. The man who has a special liking for the Jersey breed is not apt to succeed so well with Holsteins as with his favorite breed. This is really a most important consideration in selecting a breed. Select the one that appeals to you, and then strive to develop the best in that breed.

A dairyman recently made the confession that the reason he sold out one breed and took up another, was that his son had taken a great liking to the new breed, and did not seem disposed to take much interest in the farm until the plan of changing to his chosen breed was suggested. The boy has now entered enthusiastically into the work of the farm because he is developing the breed he really likes.

Breed associations are always ready to furnish literature setting forth the advantages of their respective breeds, and by studying this and following his own inclinations the beginner should be able to make a wise choice. When a community is developing some one breed, the beginner will always find it to his advantage to fall in line with what the rest are doing. Usually when a whole community settles upon a breed, it has been found that it is well adapted to the existing conditions. Many opportunities are presented as a result of this community interest in a single breed. One should weigh the matter very carefully before deciding to take up a different breed than is being handled by the majority of his neighbors.

Avoid dust in the stable at milking time.

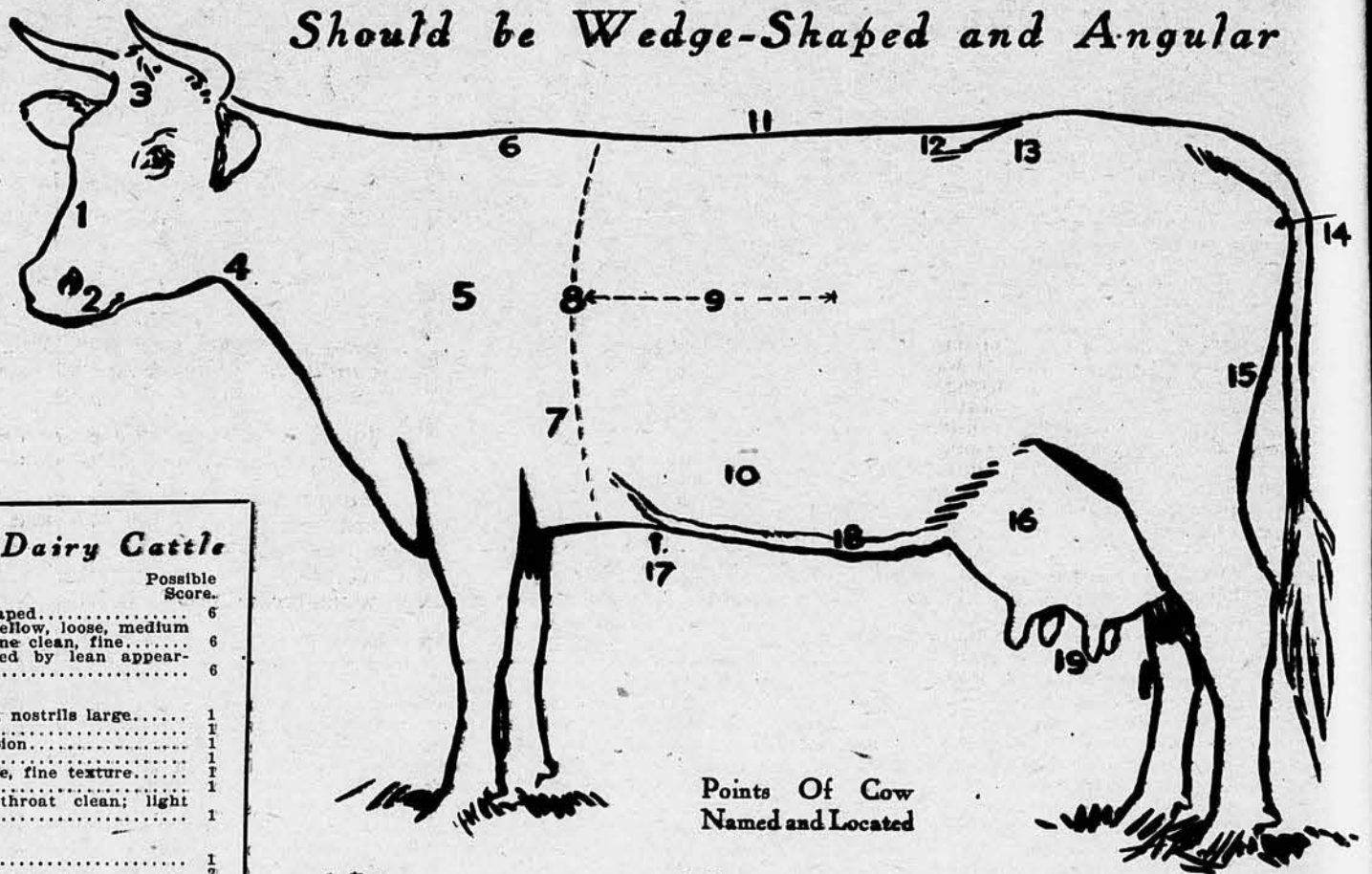
To relieve caked udder, bathe it twice a day in water as hot as can be borne by the hand. After bathing, rub well with sweet oil.

SELECTING GOOD MILK COW

Prepared
Especially
For The
Kansas
Farmer
Dairy Club

By
Prof. O. E. REED
K. S. A. C.

Should be Wedge-Shaped and Angular



Points Of Cow
Named and Located

Scale of Points for Dairy Cattle

GENERAL APPEARANCE, 18;	Possible Score.
1. Form—Inclined to be wedge-shaped.....	6
2. Quality—Hair fine, soft; skin mellow, loose, medium thickness; secretion yellow; bone clean, fine.....	6
3. Temperament—Nervous, indicated by lean appearance when in milk.....	6
HEAD AND NECK, 7:	
4. Muzzle—Clean cut; mouth large; nostrils large.....	1
5. Eyes—Large, bright, full, mild.....	1
6. Face—Lean, long; quiet expression.....	1
7. Forehead—Broad.....	1
8. Ears—Medium size, yellow inside, fine texture.....	1
9. Horns—Fine texture, waxy.....	1
10. Neck—Fine, medium length; throat clean; light dewlap.....	1
FORE QUARTERS, 5:	
11. Withers—Lean, thin.....	1
12. Shoulders—Light, oblique.....	2
13. Legs—Straight, short; shank fine.....	2
BODY, 26:	
14. Chest—Deep, low; girth large, with full fore flank.....	10
15. Barrel—Ribs broad, long, wide apart; large stomach.....	10
16. Back—Lean, straight, open-jointed.....	2
17. Loin—Broad.....	2
18. Navel—Large.....	2
HIND QUARTERS, 44:	
19. Hips—Far apart, level.....	2
20. Rump—Long, wide.....	2
21. Pin Bones or Thurls—High, wide apart.....	1
22. Tail—Long, slim; fine hair in switch.....	1
23. Thighs—Thin, long.....	4
24. Udder—Long, attached high and full behind, extending far in front and full, flexible; quarters even and free from fleshiness.....	22
25. Teats—Large, evenly placed.....	5
26. Mammary Veins—Large, long, tortuous, branched, with double extensions; large and numerous milk wells.....	5
27. Legs—Straight; shank fine.....	2
Total.....	100

1. Face.
2. Muzzle.
3. Forehead.
4. Neck.
5. Shoulder.
6. Withers.

7. Chest.
8. Heart girth.
9. Ribs.
10. Barrel.
11. Back.
12. Loin.

13. Hips.
14. Pin bones.
15. Thigh.
16. Udder.
17. Milk wells.
18. Milk veins.
19. Teats.

ture has all these different points numbered and named. The beginner should study this picture carefully so as to become thoroughly familiar with all the points of a dairy cow.

The first impression one gets when viewing a high-producing cow, or a photo of a high producer, is the marked angularity and thin, loose-jointed appearance. The thin appearance is not a condition caused by lack of feed, but the animal is well-muscled and neat, with the hair and skin in good healthy condition. The angular conformation is best described by the term "wedge-shaped." The dairy cow has three wedges. A wedge is noticed when the cow is viewed from the front, from the side, and also from above. The first wedge mentioned is formed by the withers being sharp at the top and the chest being wide at the base. The depth through the rear part of the barrel and udder tapering to the neck and head forms the wedge as viewed from the side. The wedge, as seen from above, is formed by the extreme width through the hips gradually tapering to the sharp withers. The wedge shape is not extremely pronounced in all dairy cows, but is usually found in the best animals.

INDICATIONS OF QUALITY.

The dairy cow should have plenty of quality. High production of milk and butter fat is associated with this characteristic. Quality is indicated by fine hair, soft, loose, mellow skin of medium thickness, and a fine, clean bone. Dairy temperament is another essential. By this is meant the ability to convert the feed into milk, and it is indicated by a good nervous system well under control. A cow may have a good nervous system, yet not have the dairy temperament, on account of the nervous system not being under control. A good nervous system is indicated by a neat, refined appearance, sparseness in flesh when in milk, and a large, full, mild eye. The dairy cow should be healthy and in good condition; should be spare in flesh while in milk, but may be allowed to carry considerable flesh when not giving milk.

IMPORTANT POINTS OF HEAD.

The head should be clean cut, of medium length, quiet expression, and of feminine appearance. The eye should be large, bright, and full. A mild expression in the eyes indicates a good disposition. The forehead should be slightly dished and broad. The jaw should be strong and wide, tapering somewhat to a strong, broad muzzle. A good-sized muzzle and strong jaw are

indications of a good feeder. The ears should be of medium length, good texture and fine quality, with an abundance of orange or yellow color inside. This color is believed to indicate the richness of the milk. The neck of the cow should be moderately long, thin and muscular, with clean throat and light dewlap. The neck of the typical dairy cow does not join the body as neatly as does the neck of the beef animal, but is long, lean and free from fleshiness.

BODY SHOULD SHOW CAPACITY.

The heart girth should be large, indicating lung and heart capacity. The back should be long, strong and loose-jointed, but not necessarily straight. The ribs should be long, wide and far apart. The abdomen or barrel should be long, wide and deep, especially just in front of the udder. A cow must have capacity of barrel to be able to handle large amounts of food. Often a cow will not show a great depth of barrel but may have a large capacity for food by having a greater width of barrel and wide spring of ribs. A strong jaw, keen eye, large muzzle and capacious barrel are the indications of ability to consume and digest large quantities of food, which is necessary for high production. The loin should be broad and strong, with roomy coupling.

HIND QUARTERS LEAN AND ANGULAR.

The hind quarters should show the leanness characteristic of other parts of the body. The hips should be far apart, prominent, and level with the back. The rump should be long and wide, with a roomy pelvis; the pin bones high and wide apart. Such a conformation of this region affords plenty of room for the generative organs and reproduction. The thighs should be long, thin and wide apart, with plenty of room for the udder. The legs should be fine, straight and far apart.

UDDER OF GREAT IMPORTANCE.

The udder of the cow is one of the most essential organs, and is largely used as a determining factor of the ability of the cow as a producer. The udder should be capacious, free from flesh and when empty should be soft and flexible. Capacity of the udder should be gained by length and width rather than depth. It should be attached to the body high behind and far forward toward the navel and show plenty of width throughout. This conformation permits of more surface for the blood vessels to spread over as they pass through the udder. The udder is the milk factory, where the nutrients are taken from the blood and made over into milk.

By some unknown process in the udder the food materials taken from the blood are changed to the substances found in the milk. The milk veins serve as an index to the amount of blood that flows through the udder. These veins carry the blood from the udder back to the

heart. They can be noticed leading from the fore quarters of the udder and running forward just underneath the skin and entering the abdomen near the center of the body. The milk wells, through which the milk veins enter the body, should be large. There may be more than one milk well on each side of the body. In some cases the milk veins branch as they leave the udder and enter the body in several places. Cows have been known to have as many as five milk wells on each side, and it is not uncommon to find cows with two or three milk wells on each side of the body.

The quarters of the udder should be even in size and not cut up; but the base or sole of the udder should be flat. The teats should be even, of good size for milking conveniently, and set squarely on each quarter of the udder. The hair on the udder should be fine and soft, indicating quality.

The brief description given of what to look for in a good dairy cow, is based on the experience the writer has gained in studying dairy cows in a good many high-producing herds. One who follows these suggestions can be reasonably sure of selecting a cow that is above the average in dairy production. This page should be preserved for careful study.

The Man in Dairying.

The man is the first essential to success in dairying. Good markets, cheap feeds, and favorable conditions generally, will not bring any large success unless the man is at heart a real dairyman. Good cows, suitable feed, proper equipment—all are important, but the man is the connecting link in the chain. A skilled dairyman could take a bunch of cows that might be considered failures as dairy cows, and make most of them pay expenses and even return a profit. Cows must have milk-producing feed and milk-producing care to do their best. Even poor cows will make some response if given a real chance.

The man who would make money at dairying must be a thinker. It is a type of farming offering a wide scope for mental ability. The man who does not think may be simply keeping cows instead of the cows keeping him. Perhaps there are only two or three real profit-makers in the bunch, the rest being a dead load. The man who uses his head in dairying will study every cow as an individual. Dairy cows are notional, and by humoring them, greater profit will be secured. These things do not necessarily cost money or time. It is simply a matter of watchfulness—the keeping of the mind on every detail of the business. It is true that some are natural born dairymen, but it is not impossible for those lacking in this endowment to cultivate and develop those traits of character and mind that lead to success.

It is a difficult task to select a milk cow from appearance alone. Even the best judges of dairy cattle cannot tell whether a cow will produce 250 pounds of butter fat in one year, or 350. The selection of a cow will be the first problem confronting the boy or girl becoming a member of the Kansas Farmer Dairy Club. Their ability to pick out a good cow will be one of the important points in the contest. The better the cow, the more response can be expected from the right kind of care and feeding. After becoming a member of the club, the boy should learn all he can about the appearance of dairy cows. He can profitably make close studies of cows that he knows are good milkers.

In view of the difficulty in picking out a good cow from appearance alone, it is a good plan to select one, if possible, from a herd where the ancestry of the animals is known. In the average herd there is nearly always some outstanding cow or cows that will produce several times as much milk and butter fat as other cows in the same herd. In purchasing a cow that is known to be a producer, or a heifer from a cow of this type, one is more certain to get a good producer than if he selects a cow at random without knowing anything of her ancestry.

GENERAL APPEARANCE OF GOOD COW.

Many will have to depend upon the general appearance of the cows in making their selections. Even practical dairymen who wish to add to their herds by purchase, find it necessary many times to buy young cows or heifers without knowing very much about the producing powers of their ancestors. Cows or heifers having good records, or good records behind them, always command high prices.

There is no doubt that there is a certain type or form that is associated with large milk production, and in conformation the dairy cow is quite the opposite of the beef animal. The dairy cow is angular, spare in flesh, and is usually referred to as being wedge-shaped, while the beef animal has a square, blocky form. The score card given on this page may be used as a guide in selecting cows. It shows the relative importance of the different points of the body. The pic-

FARMER NEEDS OFFICE

I WOULD hate to try to get along without the room I call my office where I keep a record of what business I do and of my farm work. A city business man might not call it an office, but it answers the same purpose for me that his office does for him. Without such a room a farmer is very apt to neglect the pen and ink phase of his business. There are few farmers who do not have enough business to pay them for having such a room especially for this purpose. A large room is not necessary.

The office should have some kind of a desk with drawers and pigeon holes where papers can be filed and kept in their proper places. I use a roll top desk which I bought for \$12 from a produce firm in the city. One day when I was in with a load of potatoes, the manager said he needed a larger desk and that he would sell me the one he had been using at almost my own price. It was practically as good as new, large enough for me, and when he offered it at less than half its cost I took it home with me. By watching one's chance a good desk can be picked up for a few dollars. A roll top desk does not have to be kept in so good order as a flat top one and it is easier to keep the children out of it.

In my office I keep my books and a file of most of the experiment station bulletins which have information along my line of work. For years I just kept these in piles and whenever I wanted to refer to a particular subject I looked through them until I found the one I wanted. With several hundred of them, sometimes it took a long time to find it; so I decided to arrange them in alphabetical order.

I bought 300 envelopes, size 7x10 inches, and wrote a subject name on each one. For example, one was for bulletins on dairy cow feeding, another for hog feeding bulletins, and so on. There are envelopes for bulletins on potatoes, wheat, corn, oats, horses, sheep, poultry, and for every subject on which I have bulletins. These envelopes are arranged in alphabetical order so that I can get information on most any subject in an instant without having to handle over dozens of others on different subjects.

I liked this idea so well that I decided to keep a similar reference file of clippings from farm papers. Subject names are written on the envelopes and the envelopes filed alphabetically. Sometimes when nothing else is pressing I intend to make a scrap book out of these clippings, but they are very useful arranged in their present order. The bulletin library has gradually grown from year to year until I have several subdivisions for some subjects; for example, on dairying there are envelopes for bulletins on feeding milch cows, one for calf feeding bulletins, one for those on handling milk, another for those on buttermaking, and so on.

A farmer cannot have regular office hours unless it is evenings. I usually spend at least a part of each evening at my desk and sometimes I suppose I am there when I ought to be in bed. I weigh and test the milk of my cows twice each month, also keep a record of what feed they consume. The original figures are jotted down in a memorandum book while they are fresh in my mind and I enter them to the credit of each cow in pen and ink when I sit down to the desk. In connection with this there is more or less figuring to get the totals together, but it is an important part of a farmer's office work which should not be neglected. There are crop records to keep and a dozen and one other things one will find to do. One will be surprised to find out how much office work he really has.

The correspondence of a farmer is not so heavy as it is with some business men, but it should be attended to promptly and in a businesslike way. I find it best to keep carbon copies of my letters and I file these together with the letters answered in regular alphabetically arranged files. The letter files only cost a quarter each and one file will hold about one year's correspondence. It comes mighty handy for reference, and it beats looking through cluttered up drawers or behind clocks on kitchen shelves for misplaced letters. I have one pigeon hole of my desk for receipts, another for checks; there is a compartment for insurance policies on myself, live stock, and buildings, and so on.

A typewriter is not a necessity, but I would dislike to do without mine. The appearance of a typewritten letter is much more pleasing than one written with pen or, worse yet, with pencil. Good second hand typewriters can be bought for from \$25 up.

It pays a farmer to adopt business methods and to have some system in his

work, both on the farm and in his office. He should have some kind of a book-keeping system so that he will know just what he owes, when his notes come due, what other people owe him, and business accounts of this nature. We should know what it costs us to raise each crop and what profit we get out of it. Unless one has some system of keeping the records he will not be in position to know where his profits are coming from or to what department to trace his losses. A farmer's office work is a phase of the regular farm routine which should not be neglected nor put off.—W. J. LAWRENCE in Hoard's Dairyman.

How Much Are You Worth?

There are two ways of arriving at an answer to this. One, is to shut your eyes and guess. You may guess right or you may miss it. The other way, and it is a very practicable one, is to take a pencil and paper and figure it out.

To do this, write down a list of everything you own. Assign a fair market value to each item. Include everything you have, even cash on hand and in the bank, bills receivable, and also give a value to crops that may now be growing, and are to be harvested next year. From this subtract your total liabilities and the result will be your net worth.

Put this away until next year. Then, figure your net worth again. The difference between your net worth at the beginning and the end of the year will be your gain or loss.

Many Want Farm Account Book.

In our issue of February 26 we told of the account book published by the Kansas Bankers' Association. We have received many requests for this book. A good many banks have secured copies and will supply them to those of their patrons who desire them.

Before writing to KANSAS FARMER for one of the books, inquire at the banks in your town. The supply remaining is limited, and we are sending them only to those who cannot get the book from the local bank.

Keeping Cost Accounts on Farm.

Keeping account with only one or two enterprises on the farm may not show true conditions. In such accounts all possible income items are usually remembered, but many items of expense which complete accounts show actually exist are rarely added to the costs. It is easy to figure a profit on anything except on the farm as a whole, and an attempt to bring the profit figured on a few separate special enterprise accounts into harmony with the year's gain or loss on the whole farm will usually fail for lack of complete data.

In all cases, actual farm values should consistently be used and the actual facts ascertained. If the values or quantities are made too high in the inventory in order to swell the year's "book" profits, the next year's "book" profits are affected inversely in like amounts. If the crop yields are overestimated or overvalued to make the crops show up well; if they are underestimated and undervalued when fed to live stock in order to show profits; if manure is credited to the live stock and never charged to the crops; or if any such juggling of accounts is indulged in by any man, he is only fooling himself, and he gets distorted and misleading results. Showing every enterprise as it is, with conservatism in placing values, is the only safe road to true results.

Another pitfall in farm cost accounting is the tendency, almost universal, to single out one farm enterprise—as, for instance, beef cattle—as the sole productive account of the farm and to charge all produce to this account at cost. Accounting of this kind is labor thrown away. The results will not give the farmer information that will enable him to improve his methods so as to increase his profits.

Keeping farm cost accounts requires thought and painstaking attention in their recording, summarizing, and interpretation, but are well worth it to the farmer who wishes to know just what he is doing. What is the use of going to a lot of trouble to keep accounts that do not give any true insight into actual conditions? Beef is a finished product; so also are corn, oats, hay and many other things produced on the farm. The production of each of these is a separate, distinct farm enterprise, and the farmer needs to know the relative profit or loss from each independent of the others. When honestly done, farm cost accounting furnishes a direct and safe basis on which to work out a more profitable business management for the farm.

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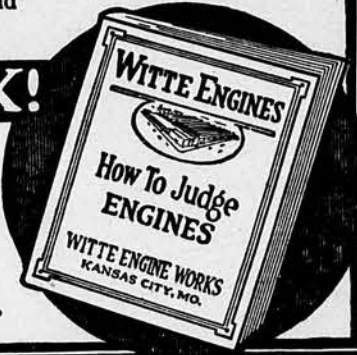
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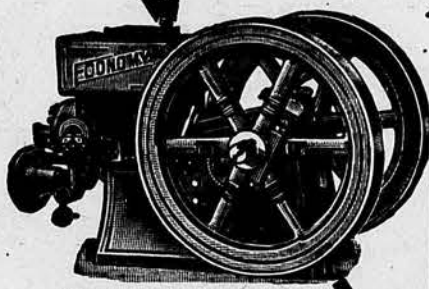
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CORN IN WIDE ROWS

LAST year we gave a report in KANSAS FARMER of some excellent results secured by growing corn in wide rows with cowpeas in the spaces. This work was conducted by the Frisco Railroad in Oklahoma and Western Arkansas.

This idea is not a new one to Kansas farmers, especially those living in the western part of the state. Many corn failures are due to lack of moisture at a time when the plant is making its largest growth. It requires a great deal of moisture at this time, and the purpose of the wide row planting is to overcome this shortage of moisture during the dry spells that frequently come at a critical time in the growth of the corn plant. An enormous amount of water is used by such rank growing plants as corn. Experiments have shown that on good soil a corn plant will evaporate approximately 300 pounds of water for each pound of stalk and grain produced. In addition to this large use of water by the plant itself, there is the evaporation from the surface of the soil.

The agriculturist of the Frisco Railroad has been advocating this method of increasing corn yields for several years. In 1913 two demonstrations were conducted in Oklahoma, and the results were so favorable that in 1914 the number of demonstrations was increased to twenty-four. In that year the average yield of corn in these wide rows was 21.7 bushels to the acre, and in addition 10.6 bushels of cowpeas. Corn on similar land, in rows of ordinary width, produced only 12.4 bushels an acre. During the season of 1915 thirty-six demonstrations were conducted. That season was an unusual one in that the rainfall was far above the normal, and there were not hot winds. In spite of this favorable season for corn growing, the wide-row method again proved superior to cultivation in ordinary rows in the territory in which the Frisco demonstrations have been conducted. We notice in going over these reports, that the yields of corn in these wide rows in some instances were as high as 64 bushels an acre. On one demonstration farm the cowpeas yielded 60 bushels to the acre, the corn on this farm returning 25 bushels. The average yield of corn on all the demonstration fields was 28.3 bushels an acre, and the average yield of peas 11.7 bushels.

Wherever these tests were made the yield of corn on similar land planted in ordinary rows, was determined. The yields of corn, under ordinary cultivation, averaged 23.3 bushels an acre. In only one case did the corn in wide rows fail to exceed corn grown in rows of ordinary width. This was on a farm in Oklahoma, the wide-row yield being 28 bushels, and the narrow-row yield being 58. The cowpeas were pastured, so that the actual net profits could not be determined. The stand of corn in the wide rows was only medium on this farm, and the ears did not fill out, which would indicate that poor pollination might have been responsible to some extent for the results.

We believe this method of growing corn has merit for some of the conditions existing in Kansas. The cowpeas grown between the rows are a source of profit, as they can be pastured or cut for hay, and give good returns as feed. In view of the results secured in these tests, it would appear that any profit made from the peas might be considered as an addition to the profit in growing corn. On thin land, or land that has been farmed for a good many years and has become somewhat exhausted in fertility, the growing of the peas adds nitrogen and some humus to the soil. The roots penetrate deep into the subsoil, and as they decay tend to break up the soil and bring it into a better physical condition.

Alfalfa Seed Being Imported.

It has not been necessary in Kansas to use imported alfalfa seed for several years. Last year, however, there was very little seed produced in the state, due to the excessive rainfall.

For the spring seeding, imported seed will, in most cases, have to be used. Ordinarily the seed imported comes from Germany, but according to the seedsmen, that being imported this year will come from Russia. The German seed has usually been very clean and free from noxious weeds. The Russian-grown seed frequently has a considerable per cent of weed seed, and those buying alfalfa for

spring seeding will do well to examine the seed carefully before making their purchases. It would be very easy to start very troublesome weeds by using seed that had not been carefully examined.

The safest plan in buying seed would be to secure samples and have them examined by the botanical department at the agricultural college. A special force is maintained in this department for the examination of seeds, both for impurity and for vitality. A report will be made, giving the per cent of foreign seeds and calling attention to the presence of any that may become dangerous weeds. A report on the germination test will also be made.

Pasture Wheat Cautiously.

All over the wheat section of Kansas it is the custom to pasture wheat. On many farms this is quite an important source of revenue. We believe, however, considerable care should be exercised in pasturing wheat in the spring. Stock can do considerable damage when the ground is wet and soft. This, is perhaps, more apt to be the case where the wheat has made only a small growth.

It is a good general rule to take all stock off the wheat when spring opens. The acreage of wheat is somewhat reduced this season, and for this reason nothing should be done that will lessen the chances for producing a good crop. Live stock farming and wheat farming go well together, and it is always a source of profit to use rank growing wheat as feed to the fullest extent possible. However, provision should always be made to supply the stock with other feed when conditions are such as to make it risky to keep them on the crop.

We are frequently asked if pasturing does not destroy the Hessian fly. This opinion seems to be held by many farmers, but those who have investigated the matter carefully, report that the tramping of stock has little effect in reducing the injury done by the fly. Other methods will have to be depended upon to eradicate this serious pest.

Farm Bureau Plans.

The importance of the work being done by county farm bureaus is evidenced in the carefully outlined plans they are making in advance for the coming year. As now organized, these bureaus must have at least 250 active farmers as members. From these members the officers of the bureau are selected. No work is attempted without it being passed upon by the members. In their annual meetings they have a careful report of the work of the past year and definite plans are proposed for the work of the coming year.

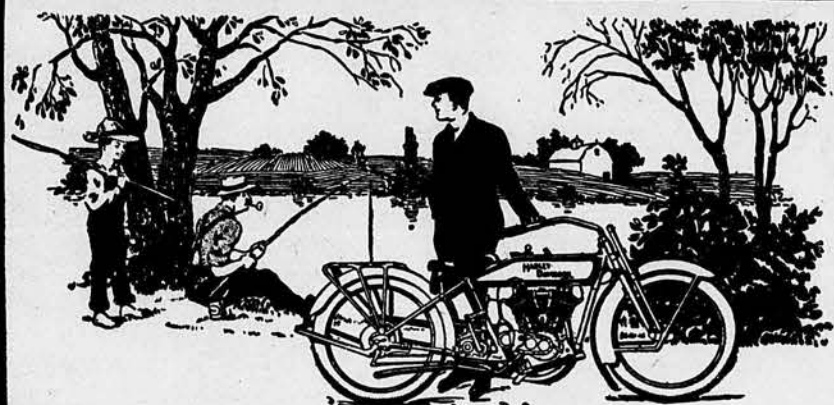
To show the careful manner in which the work is planned, we give below the outline of the projects to be handled in one of the northern counties of Kansas where a farm bureau has been in existence for over two years. This is a fair sample of the plans being made by other farm bureaus in the state:

Crop improvement projects: Wheat—variety tests, smut control, seed bed preparation; corn—variety tests, cultivation, standardization, seed; grasses—sweet clover, Sudan, brome grass, pasture experiments; sorghums—variety tests, silage tests, seed selection; controlling crop insect pests.

Live stock projects: Stock judging contests and demonstrations—individual instruction, group teaching, market gardens and requirements; live stock shows—colt shows, poultry shows, county live stock shows; feeding and breeding demonstrations—charts, slides, feeding and breeding records; service bureau—locating pure bred sires, assisting in individual and community buying and breeding, assisting in selling surplus and undesirable stock; live stock diseases—anti-hog cholera clubs, sanitation, clean-up campaigns, prevention of stalk field losses, prevention of blackleg.

Community welfare projects: Farmers' institutes and farm bureau meetings; extension schools in agriculture and home economics; farm, school, and home fairs and festivals; county agricultural exhibit for state fairs; farm management and community welfare surveys; aid to community welfare organizations.

School and educational projects: Lectures and demonstrations at teachers' meetings and institutes; aid to high



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school teachers of agriculture; demonstrations for agricultural classes; boys' and girls' club work—corn, mother-daughter canning, pig, sewing; canning demonstrations; home economics contests.

Miscellaneous lines of work: Landlord and tenant problems; labor bureau; a buy-and-for-sale and exchange bureau; county publicity bureau; farm visits for investigation work; issuing bulletins and publications.

The Farm Lawn.

There is no reason why a good lawn cannot be maintained on a farm. It is true, it requires some effort, but a well kept lawn is most attractive. It is now time that lawns should be given some special attention. If it was not manured in the winter, it is now too late to apply ordinary farm manure. If the soil needs fertilization, some fertilizer that will act more quickly, must be used. A specially prepared sheep manure is sold for lawn fertilizer.

As soon as the ground is well settled in the spring the trash should be raked from the surface. This should not be done too early, and in some cases only the gathering up of the coarser material is necessary. Where ordinary manure was scattered it should be broken up in the spring and the coarser portions removed. The grass will cover up a great deal of litter, if it makes good growth, and it is a good plan to leave as much of it as possible.

In order to keep the lawn up, it is almost necessary to sow some fresh seed each year. It is only by repeated applications of grass seed that a good lawn can be maintained.

In the first seeding of a lawn it is usually the practice to sow about one pound of seed to every 400 square feet. For re-seeding considerable less than this can be sown. The seed should be sown before freezing weather is entirely over. By sowing the grass seed early in the morning when the ground is frozen, the thawing during the day will usually cover it sufficiently. Sowing grass on a light fall of snow is another method that is quite successfully followed. As the snow melts the seed is carried down to the soil.

It is always a good plan to give the lawn a good rolling in the spring. This should be done just as soon as the ground is dry enough. Its purpose is to compact the soil about the roots of the grass. The surface is always more or less opened up by the freezing and thawing of winter.

Early in the season, when grass is making a good strong growth, it may be cut fairly close with the lawn mower, but as soon as its growth becomes less vigorous close clipping should be stopped. It should either be left uncut or the mower set to cut it as high as possible. For the farm lawn, as good a plan as any is to let it go without any cutting at all during the hot part of the summer. The grass will mat down to the surface and be a protection to the roots. Later in the season it will spring up and make a good fall growth.

What Is Farm Management?

Farm management as a branch of agricultural science is defined as follows in an address recently delivered by one of the Federal department's specialists:

"The farm management investigator gets his information direct from the farmer. The solution of many of the practical problems of agriculture are found to have already been solved generations ago by large groups of farmers; particularly is it true of farm management and organization. Every farmer is of necessity more or less of an experimenter. The results of thousands of such experimenters gathered by the farm management investigator, classified and interpreted in their bearing on the community's problems and on the individual farm's problems, yield not only many fundamental broadly applicable principles of good farm organization, but also show in more or less detail in just what respect a successfully operated farm differs from one which is a failure or only moderately successful.

"In previous decades the agricultural investigator largely concerned himself with the study of how to accomplish certain ends. How best to feed a pig or a cow; how best to raise potatoes or fruit. The farm management investigator is concerned with determining whether to keep cows or pigs; whether to raise fruit or potatoes; and, if an industry be found to be desirable, to what extent it should enter into the farm organization, and with what intensity it should be pursued. All of these problems have in the aggregate been solved by the farmers. Farm management is merely a science for classifying and interpreting the collective experience of the farming people as to what constitutes business efficiency in farming.

"Farm management" considers farming as a business. It attempts to analyze the various factors having to do with the success or failure of that business as it is found conducted on the individual farm, and in so far as possible to determine the broad outstanding factors for efficiency which admit of general application for a region."

Diversity on the Farm Pays.

Do you practice diversified farming? Farm records show, and good farmers agree, in general, that diversified farming is the most profitable. Diversified operations mean the raising of live stock and various kinds of crops with no attempt to specialize. This plan gives opportunity for crop rotation, for distribution of man and horse labor and for the maintenance of soil fertility. All of these are essential to good farming. Crop rotation aids in maintaining crop yields and soil fertility, the distribution of labor reduces the cost of operation and the maintenance of soil fertility is the basis of all successful agriculture. Diversified farming is of importance because it allows farmers to carry out these farm practices.

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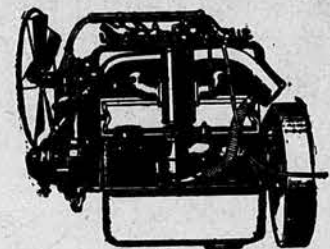
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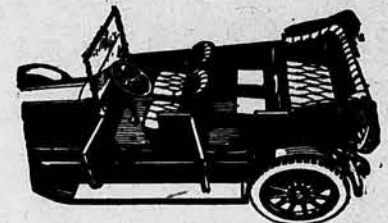
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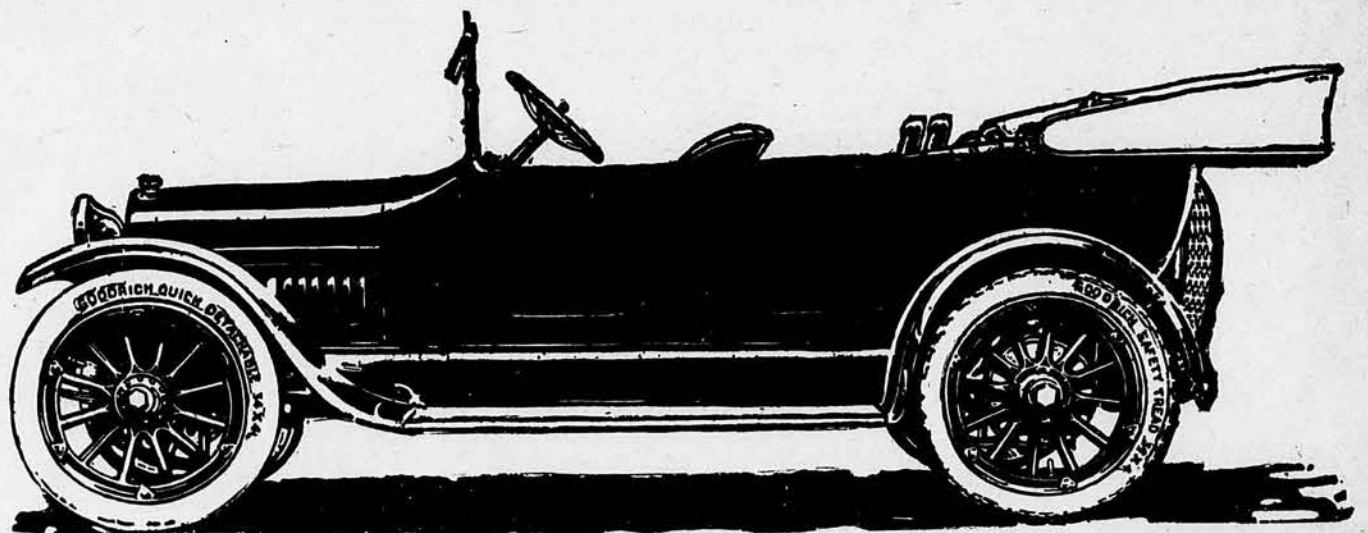
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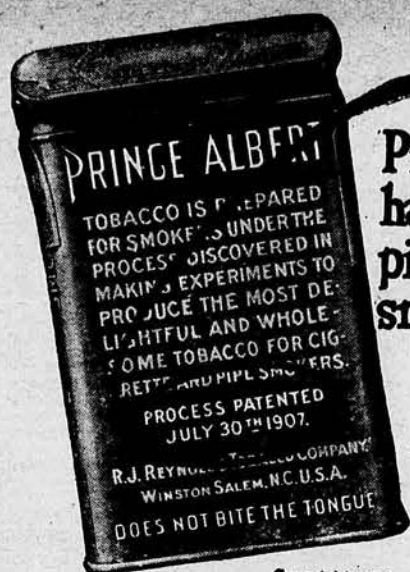
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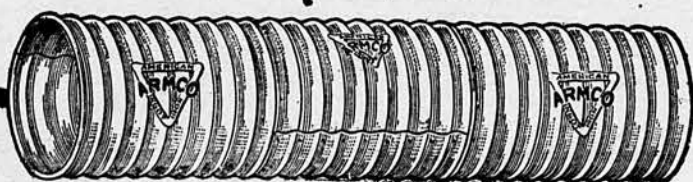
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THE SOW AND HER LITTER

By C. O. LEVINE

BRAN in the form of a warm slop should constitute the major part of the sow's ration for a few days before farrowing. For the first twenty-four hours after farrowing the sow should have nothing but bran. It acts as a laxative and has a cooling effect on the system. When the pigs are two or three days old the ration should be gradually increased so she will be on full feed again in a week or ten days.

A good ration for a sow with suckling pigs consists of 50 per cent corn, 18 per cent bran, 25 per cent shorts, and 5 per cent tankage. Eight or nine pounds of this feed a day is about the right amount for a sow with a litter of eight thrifty pigs. The feed should not be stinted, but no more should be fed at each feeding than will be cleaned up. Half the feed should be fed in the morning and the other half in the evening.

Pig protectors or guard rails should be built around the sides of the shed or farrowing pen to prevent the sow from killing the pigs by squeezing them against the walls. The protectors should be built about eight inches high and four wide, and may be made by securely nailing a 2 x 4 to the walls eight inches from the floor. The cost is insignificant when compared with the number of pigs that will be saved.

Teach the pigs to eat grain as early as possible. If they are given a chance it will not take long for them to learn. Arrange a feeding pen for them separate from the sow by building a partition in one corner of the sow's pen eight inches from the ground. This allows the pig to crawl under but keeps the sow out. Throw in a little shelled corn or rye and it will not take them long to learn that grain is good to eat. When the pigs are four or five weeks old, place a trough in the pig section and feed the pigs a little warm sweet milk twice a day.

Be careful to wash out the trough every time before the milk is poured into it and place it where the sun will shine into it between feedings. Cleanliness is very important, and if the pigs get milk that has soured or is filthy, it is very apt to cause scours or other digestive troubles.

In spite of the fact that our ancestors have been wont to speak of the pig as a filthy animal, we know now that the pig that is fed clean, wholesome feed, and kept in clean quarters, will be more growthy and healthy than one kept under the opposite conditions. The hog is the only class of live stock that helps to keep its bedding and shed clean by not befouling its sleeping quarters with its own filth.

Weaning time is a critical period in the pig's life. Probably more pigs are stunted during this period than at any other time. It is best for both the sow and pigs if the weaning can be done gradually, covering a period of three or four days. When drying up the sow, feed her very little besides water, and she will not be uncomfortable.

It pays to allow the pigs to suck until they are nine or ten weeks old. It may seem before this time that they are not getting much from their mother. However, the little they do get helps wonderfully, and the pig that has a good start is already on the high road to becoming a profitable hog.

There is some danger of overfeeding newly weaned pigs. They seem to have an insatiable appetite, and discretion should be used in satisfying their hunger. The reason for their seeming enormous appetite is not because a large amount of feed is needed, but because they are accustomed to suckling their mothers many times a day. The secret in keeping the young pigs thrifty and growing following weaning is to feed in

small amounts several times a day.

Corn and skim milk, fed in the proportion of three pounds of skim milk to one of corn, along with alfalfa pasture, makes a cheap and growing ration. The exercise the pigs get running on alfalfa helps to keep them in a thrifty condition. If skim milk is not available, a good ration is one made up of 65 pounds corn, 30 pounds shorts, and 5 pounds tankage, with alfalfa pasture. If neither alfalfa nor skim milk is available, decrease the corn five pounds and increase the tankage five pounds.

The tankage and shorts should be fed in the slop. Warm the milk and slop for the pigs in cold weather. Cold wet feed in winter weather is the cause of a number of pig troubles. It upsets the digestion, causes slow gains and develops runts. It also invites pneumonia and other diseases. Watch the pigs after they fill up on cold water or wet feed when the mercury is around twenty above. You will see them run for the shed and huddle up closely in the effort to keep warm. When they come out again they cool off quickly and take cold.

Hogs should not be allowed to lie on damp hard floors. They show an appreciation for clean, dry straw, free from dust. Many diseases result from wet or dusty straw.

Damp bedding or too much corn or shorts in the ration may cause rheumatism. Shorts contain too much lime to be fed in large amounts, and corn lacks in protein. In case the pigs contract rheumatism, give 20 grams salicylate of soda in the feed for each pig affected.

Scours rarely occur if the sow and pigs are fed right. If suckling pigs have scours, mix a little iron sulphate (copperas), fifteen to twenty grams to the dose, in the sow's feed. If necessary, give several doses two or three days apart. Lime water or castor oil are good remedies for scours.

Thumps are caused by too much grain and too little exercise.

Sometimes the suckling pigs are troubled with sore mouths. Dipping should heal such sores. If the sores are large, anoint with salve. If the cow or pigs have lice or get scabby, dip in some coal tar solution, or sprinkle with prepared crude oil.

When medicine is given, it should be administered in the feed whenever possible. If it is necessary to drench, slip a cord around the upper jaw to assist in holding the mouth open, and inject slowly, shooting to one side of the mouth. Use an iron syringe.

Possible Labor Shortage.

A member of the Federal Bureau of Labor who addressed a farmers' convention in Kansas City, recently, made the prediction that farm labor will be unusually scarce following the European war. Immigration during recent months has been the smallest in years. It was the belief of this speaker that labor will be at a premium in Europe following the war because of the vast amount of work that must be done in getting the various industries into operation again.

In this country also factories are likely to make heavy demands on labor in the readjustment of business which is bound to take place when the war is over.

Farmers are having to depend more and more upon labor-saving machinery of various kinds. It seems to be the only solution of the farm labor problem, but with all our improved machinery a great deal of hand labor is required. We are referring to these possible conditions as a warning to farmers who must hire much outside help in carrying on their farming operations.



GROUP OF GUERNSEYS, ALL THE PRODUCE OF ONE HEAVY-MILKING COW.—OWNED BY R. C. KRUEGER, COFFEY COUNTY

WESTERN DAIRY SUCCESS

AT a cost of \$400 feed a year, a herd of thirty-five part pure-bred and part grade Jersey cows are earning an average of \$150 a month on the farm of George W. Senneff, a pioneer dairyman of Calhan, Colo. Mr. Senneff settled on the Western plains many years ago and has been on his present farm in El Paso County eleven years. He has become independent through dairying. He enriches his farm land through the constant application of manure. Mr. Senneff never buys a pound of feed for his herd—all is raised on his land. The average net profit for each of the cows last year was \$55. Although the season this year was unusually late, Mr. Senneff told the writer that according to his records he will sell almost \$2,000 worth of cream from a possible total of thirty cows actually milked. The cream is shipped to Colorado Springs and sells for an average of 28 to 30 cents a quart. The herd's butter fat percentage is from 5.5 to 6.5. The feed ration consists of oats straw and corn fodder, all the cows will eat, and two feedings of alfalfa hay of twenty-five pounds per cow. The alfalfa is grown in a creek bottom and yields between two and three tons an acre on fourteen acres. It is not irrigated. The cows range on the native buffalo grass. Several cows give almost five gallons of milk a day and the herd average is between three and four gallons. All unprofitable cows are sent to market. A pure-bred sire is at the head of the herd, and out of fourteen calves this year, eleven were heifers. Steer calves are sold for about \$5 each when weaned. Heifers usually are added to the dairy herd or are sold for from \$25 to \$35 a head.

Mr. Senneff has brought his dairy enterprise to such a profitable basis that he no longer bothers himself with the details of caring for the cows and milking. He pays a worker \$500 a year and gives him a home with sufficient ground to make a paying crop, in return for which the hand milks the cows and disposes of the cream. Oats, cut for hay, will yield more than a ton an acre. There are thousands of acres of just such land throughout El Paso County. The Calahan district is on the divide and has a fair rainfall every year, sufficient to mature crops. The last two years have been remarkable for their productivity. Pasture can be counted on for five to six months a year and sixty cows can be grazed on a section without worry of feed shortage.

A large concrete barn and a concrete silo has been erected on the Senneff farm. Larger profits from feeding corn silage will be obtained this winter. Skim milk is fed to calves.

With an income of \$1,500 and a feed bill of not to exceed \$350, Clark Blair, a dairyman of Limon, Colo., has made a success with cows in his two years' experience in Eastern El Paso County. There are forty-three milk cows, mostly mixed grades and a few Holsteins eligible to registration, on the farm. Mr. Clark had been dairying at Eastonville a dozen years and saw an opportunity for establishing himself near Limon. Without adequate equipment he has found the venture profitable from the first. In another year he will erect a modern barn and silo. He is well satisfied with conditions at present and believes Eastern Colorado to be a dairy country capable of making any industrious and intelligent farmer a substantial living. Cream is sold for 20 to 25 cents a quart and skim milk is fed to calves and hogs. Mr. Blair sells whole milk and cream on a route. His feed ration for milk cows is fifteen pounds of alfalfa hay a day in two feeds, ten pounds of corn fodder and an equal amount of oats hay or millet. The cows graze over 900 acres of native prairie and the grass is dependable for five months a year. Bull calves are sold for \$7 to \$8 each at five days old, and heifers bring \$20 to \$25. Skim milk is fed to Duroc hogs. Last year twenty head were sold at an average weight of 175 pounds, from seven to seven and one-half cents a pound.

The dairy enterprise of T. O. Iverson, near Limon, is one of the most profitable in Eastern Colorado. Twenty-five cows yield from sixty to seventy gallons a day. The herd is a grade Red Poll and has been milked two years. Cream sells for 25 cents a quart throughout the year. The herd test shows about 4.5 butter fat, and the income from the herd last year was about \$1,300. The average feed cost for the herd did not exceed \$400. It consists largely of corn silage, worth about \$5 a ton. Last year fifty tons were fed from a pit silo which cost \$40 to build. Mr. Iverson raises his feed for the cows. Oats hay is fed, and alfalfa, which produces three tons an acre on creek bottoms without irrigation. Corn yields about five tons of silage an acre in a

normal year. Mr. Iverson has been in the milk business at Limon two years. He is well satisfied and believes there is a good future for it. The health of the herd is excellent in the high and dry climate of Colorado. The cool nights are of the greatest value to the recuperative powers of the cows. There are few flies and other pests to annoy them. Ten to fifteen calves are raised every year and the heifers are added to the growing dairy herd. Bull calves are sold.—VICTOR H. SCHOFFELMAYER.

Checking Soil Blowing.

Soil drifting is a constant menace to the Western Kansas farmer. Thousands of acres of wheat are destroyed some seasons by this blowing of the soil. Last fall much wheat was seeded late and did not make a big fall growth. Such fields are much more apt to be injured than those that become well established before the winter came on. Wheat that was stubbled in is not likely to be injured because of the rank growth of straw last season. It is on the plowed land that there is the greatest danger, and for this reason many argue that plowing for wheat is a mistake. This is a very convenient excuse to make for careless methods of farming.

Damage from blowing may take place as soon as the surface of the ground becomes dry. The alternate freezing and thawing during the spring frequently leaves the surface of the soil in a very finely pulverized condition. If the wind blows—as it usually does some time during the spring—when the surface soil is in this condition, drifting is apt to start. The most serious damage is done only when the small particles of soil have gained sufficient momentum to cut or injure the tender plants. Of course, where drifting takes place for any length

of time, the plants may be actually blown out of the ground through having their roots exposed. If the soil starts drifting on a field of wheat, the most effective and practical means of stopping it is to list a few furrows at intervals of three or four rods. These furrows should be run east and west across the field, as the prevailing winds are from either the north or the south. Later in the season, after the danger of blowing is past, these lister furrows can be leveled so as not to interfere in harvesting the wheat.

Farmers having sub-surface packers have found that running the packer across the fields helps to check the drifting of soil. The scattering of straw is another means employed with considerable success. In an emergency this method, however, is too slow. Where there is straw, it is a good plan to scatter it over the fields as soon as possible. Where this has been done during the winter season the straw will act as a preventive of blowing. On the station farm at Hays this has been found to be a very successful method of controlling soil blowing. It becomes much more effective if a packer or a disk with the wheels set straight are run over the straw after it is spread. This tends to press it into the ground so that the straw itself does not blow away.

Where there are large acreages of wheat to cover, it would be a good plan to spread the straw in strips. In order for serious damage to take place, the soil must get to drifting over a considerable distance. Where it is frequently interrupted little damage will follow. In addition to checking soil blowing, the distribution of straw is a benefit, since it adds humus, which is lacking in most Western Kansas soils. This lack of humus is one of the reasons the soil gets in such condition it can blow. Soil which is abundantly supplied with organic matter will not become so finely pulver-

ized on the surface. Serious soil drifting takes place even in Eastern Kansas on some farms that have been worked a good many years.

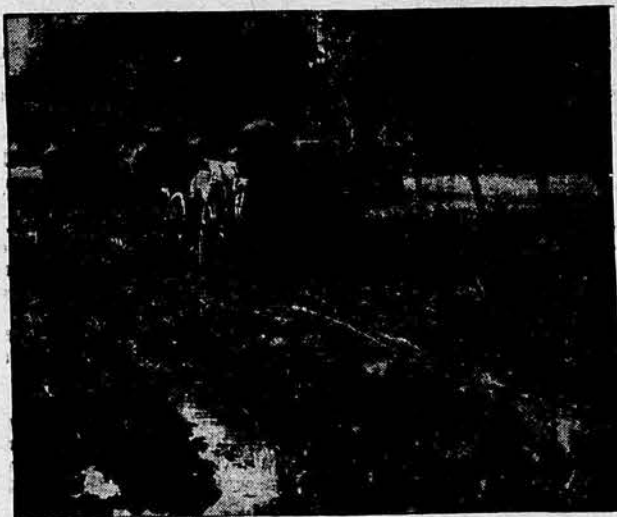
Treating Calf for Scours.

Improper and careless feeding is at the bottom of practically every case of calf scours. Scours is usually just plain diarrhea, and it makes no difference what name is applied to it, the treatment will be the same.

Since it is caused by carelessness in feeding, the treatment is largely preventive. In no branch of live stock management is absolute cleanliness so essential as in calf feeding. All vessels in which skim milk for calves is kept, and those used to feed them, should be washed and scalded twice daily. If this precaution is observed, skim milk calves will seldom be afflicted with this trouble. They should always be fed clean, sweet milk, and at regular intervals. The temperature should always be the same, and there should be no sudden variations in quantity. Too frequently the calves are fed in proportion to the quality of skim milk available.

On some farms it is the practice to feed skim milk to calves in a common trough. This is almost sure to result in some getting an overfeed and others being underfed. The calf that has been underfed at one meal may get a much larger quantity at the next feed, and this going from underfeeding to overfeeding is sure to start a case of scours.

There are some remedies that are helpful. A wheat flour gruel may be prepared and used. Follow this with a couple of teaspoonfuls of a mixture made by using prepared chalk one ounce, powdered ginger two drams, powdered opium one-half dram, powdered catechu one-half ounce, and water of peppermint one-half pint. A dose of this given every eight hours to a calf having scours will sometimes be very effectual.



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'As an excuse for talking good roads I remember an actual case. While employed at the B. & M. depot, the general live-stock agent at the request of a Chicago Commission Company, wired our office to have a feeder ship his cattle on a certain date. Under normal conditions, Mr. Ralston would have driven out and advised this man, but the roads were impassable for vehicles, and the message was taken on horseback. This feeder said it would be impossible to get the cattle to the station, as he had that morning been to town and knew the condition of the roads. When they could be traveled, the market had declined \$2.50 per 100. On this lot the farmer suffered a loss on the two cars of nearly \$1,800. No doubt a similar loss, or road tax, if you please, has been collected many times during the past 20 years and will be again frequently in the next 20.'

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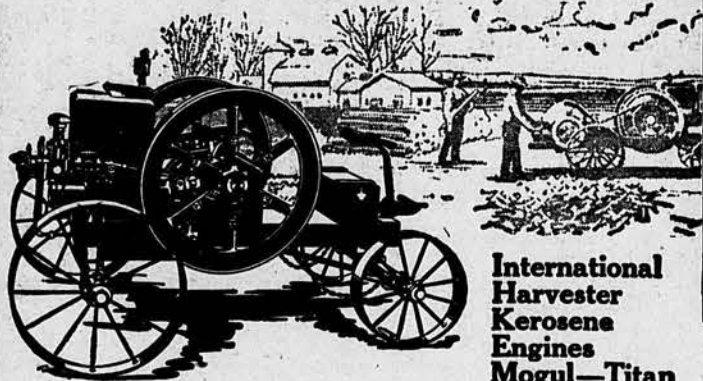
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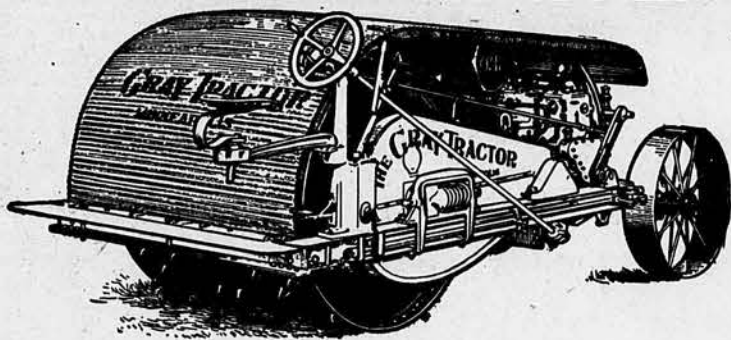
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ADVERTISING PAGE FOR READY BARGAINS

Fattening Western Lambs

LAMB feeders will be interested in the results secured at the Indiana Experiment Station in fattening lambs for market. The test here reported closed February 3, 1915. There were nine lots of 25 lambs each.

The following rations were fed:

Lot 1. Shelled corn seven parts, cottonseed meal one part, and corn silage.

Lot 2. Shelled corn two parts, oats one part by weight, clover hay, and corn silage.

Lot 3. Shelled corn and clover hay.

Lot 4. Shelled corn and alfalfa hay.

Lot 5. Shelled corn seven parts, cottonseed meal one part, oat straw, and corn silage.

Lot 6. Shelled corn, clover hay, and corn silage.

Lot 7. Shelled corn seven parts, cottonseed meal one part, clover hay, and corn silage.

Lot 8. Shelled corn four parts, cottonseed meal one part, clover hay, and corn silage.

Lot 9. Shelled corn, clover hay, and corn silage. (Fed in barn.)

The results were based on feeds at the following prices: Shelled corn, first month 55.3 cents, second month 57.8 cents, and third month 64.3 cents a bushel; oats 48 cents a bushel; cottonseed meal \$28 a ton; corn silage \$5 a ton; alfalfa hay \$18 a ton; clover hay \$16 a ton; oat straw \$6 a ton.

A brief summary of this experiment follows:

The addition of corn silage to a ration of shelled corn and clover hay did not materially affect the grain consumption but 1.38 pounds of silage replaced .89 pound of clover hay in the daily ration per lamb.

Lambs fed a ration of shelled corn and clover hay gained 27.4 pounds per head in ninety days as compared with 29.4 pounds per lamb when corn silage was added.

Four hundred twenty-three pounds of silage saved 250 pounds of hay and 25 pounds of grain in feed required to make 100 pounds of gain.

The addition of corn silage to the ration reduced the cost of gain \$1.21 per hundred pounds, slightly increased the selling value of the lambs and increased the profit 40 cents per head.

Lambs receiving silage and no dry roughage did not consume as large quantities of grain as those fed some dry roughage.

There was no difference in grain consumption between lambs fed silage and oat straw for roughage and those fed silage and clover hay for roughage.

The silage consumption was somewhat in proportion to dry roughage consumed, the largest quantity being eaten when no dry roughage was fed and the smallest quantity when clover hay was fed.

Gains made by lambs fed silage alone for roughage were 23 pounds per head in ninety days at a cost of \$6.74 per hundred pounds; 27 pounds at a cost of \$6.21 per hundred weight when silage and oat straw were fed; and 30.1 pounds at a cost of \$7.37 per hundred weight when silage and clover hay were fed.

Lambs fed shelled corn, cottonseed meal and corn silage were valued at \$8.40 per hundred weight and returned a profit of 92 cents per head; lambs fed shelled corn, cottonseed meal, corn silage and oat straw were valued at \$8.50 per hundred weight and returned a profit of \$1.21 per head; lambs fed shelled corn, cottonseed meal, corn silage and clover hay were valued at \$8.75 per hundred weight and returned a profit of \$1.15 per head.

Lambs fed shelled corn and clover hay ate exactly the same quantities of both grain and hay as lambs fed shelled corn and alfalfa hay.

Lambs fed shelled corn and clover hay gained 27.4 pounds per head as compared with 25.7 pounds by lambs fed shelled corn and alfalfa hay.

Larger quantities of feed per pound gain were required by lambs fed corn and alfalfa hay than by those fed corn and clover hay.

Gains cost \$8.62 per hundred pounds when corn and clover hay were fed, and \$9.80 per hundred pounds when corn and alfalfa hay were fed.

Lambs fed shelled corn and clover hay were valued at \$8.60 per hundred pounds and returned a profit of 64 cents per head as compared with a value of \$8.50 per hundred weight and a profit of 25 cents per head for lambs fed corn and alfalfa hay.

The addition of cottonseed meal to a ration of shelled corn, clover hay, and corn silage had practically no effect on the appetites of the lambs for either grain or roughage.

The addition of cottonseed meal to the

ration increased the rate of gain made by the lambs and slightly decreased the feed required to make a pound of gain.

The addition of cottonseed meal to the ration increased the selling value of the lambs.

Lambs fed shelled corn, clover hay, and corn silage made gains at a cost of \$7.41 per hundred pounds and returned a profit of \$1.04 per head; lambs fed shelled corn seven parts, cottonseed meal one part with corn silage and clover hay made gains at a cost of \$7.37 per hundred pounds and returned a profit of \$1.15 per head; lambs fed four parts of shelled corn to one part cottonseed meal with corn silage and clover hay gained at a cost of \$7.17 per hundred pounds and returned a profit of \$1.32 per head.

The addition of oats to a ration of shelled corn, corn silage and clover hay resulted in smaller grain and hay consumption.

Gains were more rapid in the lot where no oats were fed.

Cost of gain was 38 cents per hundred pounds greater and profit was 17 cents per head less when oats were fed.

Lambs fed in a well ventilated barn ate the same amount of feed and made the same gain in weight as those fed in an open shed.

Lambs fed in the barn were of softer flesh and were valued 10 cents per hundred pounds less than those fed in an open shed.

The profit per lamb was 94 cents per head in a barn as compared with \$1.04 per head in an open shed.

All lots were as nearly equal as possible as to weight, quality, condition, thrift, sex, and breed. Lambs were fed twice daily at the same hours. Lots 1 to 8 inclusive were fed in an open shed facing south, upon different rations. Lot 9 was fed in a well ventilated barn.

The feeds used in the trial were of very high quality and representative of the best of their kinds. The lambs were exceptionally thrifty. They were weighed at regular intervals of ten days. All feed was weighed before being given to lambs. Each lot of lambs was valued at the end of the trial by expert sheepmen from the Union Stock Yards, Chicago, Illinois.

Although feed was high in price, the margin in value of feeding and fat lambs was sufficient to insure a satisfactory profit on the operation. The conditions surrounding the lambs were very similar to those in the average feed lot. The management of the lambs was similar to that of the best lamb feeders. An effort was made to eliminate all factors other than those under comparison.

Good farm practice demands that the roughage be returned to the farm either directly or in the form of manure. The hay produced cannot be disposed of to better advantage than when fed to sheep or lambs. They are the most efficient animals known for converting hay into meat; the proportion of hay to grain consumed is greater than with any other class of fattening animals.

Be Careful in Feeding Horses.

Many horses are killed and many more are injured by careless feeding and watering.

Never water a horse immediately after feeding grain. This washes the grain through the stomach before it is properly mixed with the stomach juices and is liable to cause colic. It is safer to water the horse before feeding grain.

If the horse is very warm let him drink a few swallows and then hold his head up for a minute or two and thus cool his stomach slowly. Try it yourself in hot weather. You can drink a quart of cold water without injury if you but will take several minutes for the first few swallows.

When horses are brought in hot from their work they should first be given water cautiously and then fed hay and grain together, allowing them to exercise their own judgment in the selection of their feed.

While waiting for them at the watering trough, the time can be profitably used in removing the harness, at least the collar, and cooling the shoulders by washing in cold water. Removing the hot harness, in a hot barn, during the hot noon hour, is a great relief to the horse and is really worth while.

When a horse becomes colicky or is foundered, from too much grain or cold water on a warm stomach, there is no one to blame but the one who had him in charge, and it is he who must be charged with either ignorance or carelessness. Horses are worth money and their services are indispensable. Their care and management should be given more consideration.—GEO. H. GLOVER, Fort Collins, Colo.

SAVING THE PIG CROP

By C. O. LEVINE

It will not be long until frisky little porkers will be scampering around on the Kansas farms. Pig time is almost here. We should prepare for this important time.

About 50 per cent of the pigs are lost from farrowing to weaning time, according to records that have been kept in counties which have farm agents.

Probably the greatest loss in pigs at birth, and sows too, is due to over-feeding, and feeding too much corn to the sows.

I remember one year when I was a small boy we had twelve sows due to farrow in April. We were not then acquainted with the grave danger of feeding corn alone to brood sows, and because of the fact that corn was cheap—only 25 cents a bushel—the sows were fed corn alone for several weeks previous to farrowing. We were proud of them, they certainly were fat and smooth. The weather was fine for a crop of pigs to come into the world. However, seven out of the twelve sows died at farrowing, although we worked hard to save them. We had killed them with kindness, through ignorance.

Since that time we have fed the brood sows a ration which includes such protein feeds as oil meal, tankage, and shorts, also alfalfa pasture in its seasons, and alfalfa hay in the winter, and we never have since lost a sow at farrowing time.

A farmer's profit in the hog business depends largely on the care and feed he gives his brood sows for a few weeks previous to and following farrowing. The brood sow should have better care than is usually given.

Insufficient exercise, improper shelter and feed, and rough handling are some of the causes of the losses in the pig crop.

I know of one case where a farmer kept no record of when his sows were due to farrow. The first pigs came one cold, rainy night with the mercury near the freezing point. The pigs were discovered the next morning, nine of them all dead and half buried in the mud, and the sow nearly dead.

In talking with this man a few days later I chanced to ask him about his pigs. He related this case to me and said:

"The old sow didn't look as though she would farrow so soon, and it made me so mad I don't care whether the other sows save theirs or not." And he didn't, for several more farrowed that week under the same conditions and he didn't save a pig.

Such methods are not only unprofitable, but also cruel, and the man who is such a poor husbandman that he takes no care of his sows at farrowing time should not be allowed to call himself a farmer. Of course, however, this was an unusual case, and applies only to a few farmers who raise hogs.

A good ration for a sow with suckling pigs consists of 50 pounds corn, 18 pounds bran, 27 pounds shorts, and 5 pounds tankage. If good alfalfa, either dry or green, is fed, the bran may be omitted and 68 pounds corn fed along with the other feeds. Eight or nine pounds a day of this ration is about the right amount for a sow with a litter of eight thrifty pigs. If the sow has access to alfalfa hay or meadow, seven or eight pounds a day is enough to feed. For a maximum and continuous flow of milk it is best that the sow be fed three times a day.

The pig usually dies within one-half to one hour after reaching the pelvic bones if not delivered. If it stays much longer the following pig will be dead, and if it remains for four or five hours, all the following pigs will be lost. The chances for the life of the mother decreases according to the number of pigs retained and the length of time before they are delivered.

In assisting pigs into the world, some use a common smooth wire, with one end bent to form a half inch hook. There is danger of tearing the delicate lining of the sow's womb with such an instrument, and we prefer a pig forceps made somewhat on the order of a pair of pincers but with smooth jaws. With this forceps we have drawn live pigs which would have been torn and killed with a wire hook.

For twenty-four hours before and after farrowing, the sow should be fed nothing but bran in the form of a warm slop. The feed should be gradually increased so she will be on full feed in about a week.

Mother Earth's Christmas

ARBOR day is Mother Earth's Christmas. We who have enjoyed of her bounty, eaten her fruits, picked her flowers and rejoiced in the pleasures that follow the change of season, the green of spring, the gold of harvest, the jubilee colors of autumn, bedecked with Jack Frost's jewels, may well remember to present our Great Mother an offering of our appreciation. And as with all mothers' presents the sons and daughters are sure to enjoy the gift as well as the giving.

A movable feast this, but the spirit of giving should precede the date set by the commonwealth's executive. Even the mercenary giver may give gladly, for never was there greater certainty of a gift being appreciated and returned. "Do your shopping early," and make the delivery at an early date. Never mark it "Not to be set until Arbor day." Too many times has Arbor day been celebrated with song and speech and ceremony of presentation, and like the gift of the men who think of their friends only at sight of a Christmas card. "The gift without the giver is bare." Better plant a cottonwood cutting with care than carelessly set the rare tree that costs a coin of gold.

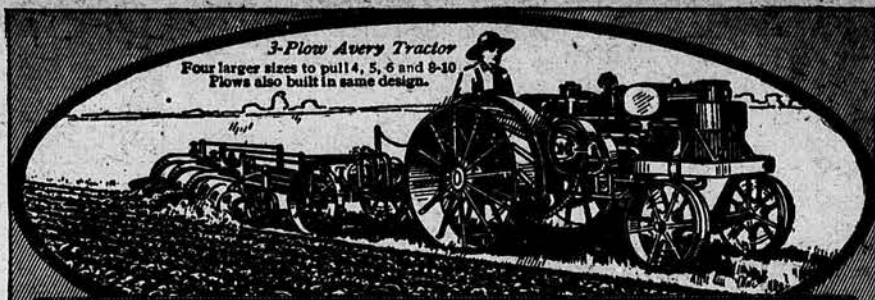
Think of the gift carefully, and select one suitable for the location. A wide spreading elm for the play ground, a neat, compact, close topped evergreen for the place where economy is necessary. The conifers are great economists of soil substance and moisture and they work at their artist's task of making pictures every day in the year. Some people object to evergreens. One old sinner says, "They make me think of the graveyard." For such a redbud, a hawthorn, a wild crab apple, or a mountain ash may be suitable.

The early prairie settler demanded but one thing of a tree—quick growth—and the law of compensation holds with trees as with all else. We must choose between desirable characters when we choose tree species, and the early settler was right. He needed shade, fuel, and windbreak, and the quick growing species were the ones that offered these. Before these pioneer trees finish their work, others should be planted and the oak, the elm, the pecan, the walnut, the ash, the sycamore, the tulip tree, and others of special desirability may be selected according to the requirements and limitations of the location they are to occupy.

The spirit of the tree lover must follow the trees; it must provide necessary protection from insect and animal injury and from a sun that may be cruelly hot for bark previously sheltered in nursery row or thicket.

The love of a beautiful tree must be strong enough to decide which must be cut down in their youth or sturdy middle age, that the remaining ones may have an opportunity to develop a beautiful symmetrical form. There are many trees which were planted by loving hands and with the fondest hopes but which are now crowded. Some must be cut out in order that all are not deformed.

Some plan for the care of the young trees set must be provided. In the ideal community that we hope the future will produce it is not too much to hope that the janitor who cares for the winter fires in schoolhouse and other public buildings may know how to prune and care for shade trees. Nor is it beyond hope that the police officials of the future may occasionally condescend to notice the needs of street and park trees and secure exercise by pruning and cultivating trees for which the community should be responsible. The sight of a small town constable grubbing a tree would surely rejoice all mankind and other Earth.—ALBERT DICKENS.



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More Club Members Report

IF it were the mere winning of the prize that spurs on the club members in their work, it would not be of lasting value to them, but it is impossible for a boy or girl to systematically carry on the club work without gaining something that will be of more value than the prize given.

The boy or girl who grows an acre of crop, learns principles concerning plant growth and soil needs which will always be useful, and the pig club member must learn principles of feeding that can be practiced long after the pig has been sold and the profit used. This same thing is true in connection with the work of all the clubs—it will become a helpful part of the development of the boy or girl.

A few weeks ago we published the letters of several girl club members, and at that time promised to print others from our boy friends. The following letter was written by Andrew Locher, seventeen years old, of Nemaha County. Note in the first paragraph his very good reason for joining the corn club, and his high idea of the object of the club: Note, also, at the end of his letter, the benefits he has received from his work:

“I enrolled as a member of the corn club to try and get all the information possible about the growing of corn, as it is the main crop in our locality. I expect to be a farmer when I am a man, so I want to begin right now to know the business of corn production. The object of the boys' corn club is to increase knowledge and to instill into our hearts the joy of producing superior quality.”

“When Columbus discovered America the Indians were growing corn. It was not known nor grown in other countries then. The Indians ground the corn and made bread of the meal, and used it in many other ways. The squaws showed the white folks how to plant it. They always placed a fish in each hill to fertilize the ground. Some Indians, such as the Hopis, have the same corn as was then grown—having many colors. Of this they make piki bread. All this I learned from a federal government teacher who talked to us at our school-house last winter, about the Indians.”

“I tested my seed corn last spring so as to be sure of a good start. I filled a box 12x24 inches, with sand, and placed it in a sunny window. When the sand was warm enough I planted 100 grains from different ears of my corn. Ninety-nine grains grew, so I was confident the seed was all right. The ground was disked once before planting. I used a lister to plant my corn, as this method gives best results in this part of the country. I planted the corn 16 to 18 inches apart in the rows and the space between the rows was 3 feet 6 inches.”

“When the corn was 4 or 6 inches high, I cultivated it with a double-row disk curler, then harrowed it. After that I cultivated the corn good and deep with a 4-shovel cultivator, to kill all the weeds. About that time we had so much rain I could not work the corn the way I wanted to do. I did not give up but went through with a hoe and pulled and cut all the weeds. July 10 I laid the corn by. It was clean, and it was a joy to see that corn grow.”

“There were no diseases or insects to injure the corn last year. The year before the chinch bugs did much damage to the corn, but in 1915, on account of so much rain, they did not have a chance.”

“In this part of the country the last week in October is a good time to start the corn harvest, and putting it in a well ventilated crib with a good roof on it, is the best way to store this grain. When harvesting, I placed a box on the side of my wagon in which to put the best ears

for next year's seed. A better way to select seed corn is to go out in the field in September and pick out the best ears before the frost hurts the corn.

“I exhibited my corn at the Oneida Farmers' Institute.

“Corn can be used as food for man and beast. Good corn bread is ahead of other bread, as it contains many things not found in fine flour. It makes good blood and sound teeth. For stock, it is fine for winter, as it heats the body and has so much oil in it. Cornstalks as fodder and silage, are as good as hay, and their use is more economical.

“My acre yielded 70 bushels and 44 pounds of shelled corn, which I sold at 56 cents, in town, and which brought \$39.64. My expense, including \$5 rent, was \$10.45, leaving me a profit of \$29.19.

“By joining the club I have learned more about corn and have taken more interest in farm life, my health has been improved, and I have made more money in proportion than I ever did before. I am a booster for the corn work. I think we should always be looking for some better way to do things so that we can improve as we go along.

“I have no camera to take a picture. I would like to paint you a picture as I saw my corn in July—many tassels filled with the rich pollen and the ears silking, growing, filling, and swelling. There I stood, full of pride and joy. I tell you, it would be some picture.”

William Yonally, Hamilton County, tells his experience in growing milo last year.

“The trip to Manhattan was the first prize given on sorghums at Syracuse last fall, and I won it.

“I got my milo seed from my father. It was listed in, then we ran weed sleds over it to kill the weeds. We then double harrowed it and ran disks over it. We had plenty of rain all summer, but on September 25 we had a bad hail storm, which knocked off the earliest heads, and these were the best.”

Nathan Horton, the writer of the next letter, won three prizes on the kafir grown by him last year—first prize at the local exhibit, first prize for Ford County, and third prize for the state.

“I entered the contest in April, 1915. September 18 I had the ten best heads of kafir and won a free trip to the Hutchinson fair.

“In December, when I had written my story and threshed my kafir, I received first prize for Ford County and a trip to Manhattan. There I won third prize for the state, which was \$5.

“I enjoyed my trips to Hutchinson, Manhattan, and Topeka, very much.

“I threshed 55 bushels of kafir from one acre.”

We have the following letter from Mary Wortman, Ford County, who also won a trip to Manhattan last year for her club work:

“I became interested in bread-baking when I attended a meeting at Wilroads March 31, 1915. There Mr. Hall, from Manhattan, and Mr. Gould, gave lectures on industrial work. I enrolled at the close of the meeting, for I was very anxious to go to Manhattan.

“I began my trial bakings at once. After that I baked twenty bakings for the contest. A record was kept of each baking. I then baked one loaf for the final contest, and this was sent in December 8. When the judges returned the decision I had won second place, and so was given the trip to Manhattan. I enjoyed my trip very much.”

We have a letter from Robert McGrath, Coffey County, thirteen years old, and though he does not say he belonged to a pig club, the letter is a good one,

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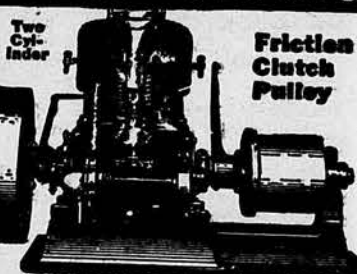
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VICTOR HURT, LYON COUNTY, WEIGHING HIS PRIZE PIG

and we know will be interesting to our readers:

"I raised a pig last year and it weighed 235 pounds at seven months and three days. I mixed bran with the milk which I fed him. The pig grew large but did not fatten right.

"This year papa gave me another pig. A neighbor weighed it the first day of May and it weighed 22½ pounds. I began feeding it May 6 when it was six weeks old. I decided not to feed bran this year, so fed shorts with skim milk and buttermilk until the last month, when I fed oil meal instead of milk. Of course, I fed the pig all the corn it would eat all the time. It could also run on clover pasture.

"We considered the pig worth \$2 at weaning time. The milk we considered worth 3½ cents a gallon figured at the relative value of corn—70 cents. The pig weighed 315 pounds when he was seven months and twenty-one days old. I sold him for 6 cents a pound, and he cost \$16.66."

The reason the bran, which this young man fed to his pig, did not give better results is that that it is too bulky for the young pig and does not supply enough fattening material. Bran is good for making growth, but it very seldom pays to feed bran to hogs that are to be fattened for market. The bran with the skim milk supplied an abundance of growing material, but the pig kept so filled up on this bulky feed that he probably did not eat enough corn to make him fatten right.

The ration fed the second pig is an ideal one, and the results secured evidence this fact. There are not very many breeders of hogs that succeed in making them weigh over 300 pounds at seven months of age.

We wonder how the feeding value of the skim milk was determined. Skim milk has its maximum value when fed in the proportion of one pound of corn to three pounds of milk, which is a little over a quart. If fed in larger quantities it is not so valuable. In averaging up a good many tests in feeding skim milk to pigs, Professor Henry, in his splendid book on "Feeds and Feeding," states that it is worth 46 cents a hundred pounds, when corn is worth 56 cents a bushel, and when corn is worth 84 cents a bushel, it is worth 46 cent a hundred pounds. This is on the basis of feeding it at the rate of 3 pounds to each pound of corn. From these figures it would seem that the milk is charged at a rather high rate in the feeding of this pig. But even charging these high prices for all the feeds, there was some little profit in the pork produced.

Shelter Belt Protects Farm.

The protection that a clump of trees or a shelter belt will provide for live stock in a severe blizzard, will often more than offset the entire cost of growing the trees.

The value of protection from the winds to the farm home, barns, and yards, is an item that cannot be estimated in dollars and cents. A few rows of trees properly located change the environment of a farm home from a dreary prairie to a place of beauty and comfort.

A shelter belt is a belt of trees planted in such a location as to protect a field or farm buildings and yards from the sweep of the wind. In Western Kansas the objectionable winds are from the south and the southwest during the summer months, and from the north and northwest during the winter. The shelter belt will therefore be located on the south, west, and north sides of the objects to be protected.

The value of a shelter belt to a cultivated field, is that to a large degree it protects the soil from blowing and allows the snow to settle and lie evenly over the surface of the field. Often the snows thus held by some obstruction to the wind, determine the success or failure of the crop the following season. The protection afforded by a shelter belt to growing crops is in critical times of immense value. Protection during two or three days of hot winds is frequently sufficient to save a crop.

Extensive studies have shown that the shelter belts materially reduced the velocity of the wind for several rods to the leeward. With the reduction of the velocity of the wind, there is a corresponding decrease in evaporation of soil moisture from the plowed ground and in transpiration from the growing plants.

The distance for which protection is afforded to the leeward of a shelter belt should vary with the slope of the ground and with the exposure of the location. Under general conditions, however, perceptible protection is afforded to the leeward for a distance equal to 10 or 15 times the height of the trees. Under such conditions a shelter belt 20 feet in height will afford some protection for a distance of 200 or 300 feet.

To be effective a shelter belt must be composed of enough trees to provide an effective barrier to the winds. A single row of broadleaf trees planted closely in the row, affords a considerable check to the wind during the summer, but offers little resistance when the trees are naked. If composed exclusively of broadleaf species a shelter belt should consist of from six to ten rows of trees. The rows should not be more than eight feet apart and the trees not more than six feet apart in the rows.

The best trees for shelter belt planting are the evergreens. They retain their leaves throughout the winter and offer as a great barrier to winter as to summer winds. Also, they limb from the ground up and there is no opportunity for the wind to sweep along the ground under them. Two rows of red cedars or of cedars and pines in mixture will provide greater protection than ten rows of broadleaf trees. For shelter belt planting, the evergreens should be planted in rows twelve feet apart and eight feet apart in the rows. The trees in one row should come directly opposite the space between the trees of the adjacent row.—Kansas Industrialist.

Fertilizers for Corn.

Increasing interest is being manifested in Missouri and adjacent states in the use of fertilizers for corn. Many of the inquiries are received concerning the best methods of applying the fertilizer as well as the best fertilizers to apply.

If properly used, commercial fertilizers are helpful, particularly on certain soils, but it is usually better to keep the soil in good condition by the proper use of barnyard manure, crop rotation, clover, cowpeas and similar crops which build up the soil.

By tests made on the outlying experiment fields in various parts of the state, Missouri Agricultural Experiment Station has found that on the usual medium-to-low-fertility upland soils the highest net return per dollar invested in fertilizers is secured by applying from 75 to 90 pounds per acre of a fertilizer containing about 2 or 3 per cent nitrogen, 8 or 10 per cent available phosphoric acid and from 2 to 5 per cent of potash. The same amount of steamed bone meal also gives good results. These recommendations consider only the effect on the corn crop, but leave out of consideration any part of the fertilizer which may remain to benefit later crops.

On very thin lands from 200 to 250 pounds per acre of the same fertilizer should be used. When larger amounts of fertilizer are applied following crops will be benefitted much more, and special care should be taken to apply with a fertilizer grain drill instead of by means of a fertilizer attachment in the hill or drill at the time of planting. The application of from 75 to 90 pounds will usually give the best results if applied in the hill or drill. The application of too much fertilizer in the hill or drill at time of planting is dangerous on a dry season, when it is likely to cause the corn to fire, but in seasons of abundant rainfall as much as 150 pounds may be applied in the hill or drill without danger.

While fertilizers properly used are very valuable on some soils, the good corn grower will not depend upon them to maintain or keep up soil fertility. They are temporary helps in securing or increasing a crop and should always be used with the best rotations for the locality. If fertilizers alone are used year after year the effect on the soil will be very much the same as though corn had been grown without fertilizers, although the crops may be larger so long as the fertilizer applications are continued.—M. F. MILLER, Columbia, Mo.

Pecans in Eastern Kansas.

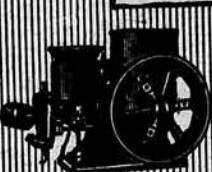
Wood lots throughout Eastern Kansas offer an excellent opportunity for the profitable growing of pecans. The trees may be started from nuts planted in the open spaces in the wood lot, or budded trees from five to seven feet in height may be planted promiscuously in the open spaces throughout the wood lot. These trees will come into bearing in from five to eight years, and from that time on should yield a considerable quantity of nuts, the volume increasing in proportion to the size of the tree. The pecan attains a height of 75 feet or more on a favorable site, with a diameter from three to four feet at the base. Trees of this size frequently yield from 600 to 800 pounds of nuts in a single season. Twenty trees to the acre is considered a full stand. The pecan is particularly well adapted for planting on overflow lands in a heavy, rich soil, such as is usually found along water courses.—C. A. SCOTT, State Forester.

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A Conundrum

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Three Hundred Million Bushel Crop in 1915

Farmers pay for their land with one year's crop and prosperity was never so great.

Regarding Western Canada as a grain producer, a prominent business man says: "Canada's position today is sounder than ever. There is more wheat, more oats, more grain for feed, 20% more cattle than last year and more hogs. The war market in Europe needs our surplus. As for the wheat crop, it is marvelous and a monument of strength for business confidence to build upon, exceeding the most optimistic predictions."

Wheat averaged in 1915 over 25 bushels per acre
Oats averaged in 1915 over 45 bushels per acre
Barley averaged in 1915 over 40 bushels per acre

Prices are high, markets convenient, excellent land low in price either improved or otherwise, ranging from \$12 to \$30 per acre. Free homestead lands are plentiful and not far from railway lines and convenient to good schools and churches. The climate is healthful. There is no war tax on land, nor is there any conscription. For complete information as to best locations for settlement, reduced railroad rates and descriptive illustrated pamphlet, address

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Canadian Government Agent.

less cattle than will any legislation that can be passed.

There were several other speakers, among them J. H. Mercer, live stock sanitary commissioner, who gave much valuable information regarding the application of the tuberculin test. During the past year or so his department has been doing a great deal of testing. Many cities are passing ordinances requiring that the herds supplying them with milk be tuberculin tested. No veterinarian can administer this test without authority from Mr. Mercer. In a number of localities in the state he is establishing a list of dairy herds that are being tested, and hopes that eventually this will develop into a state-wide system of accrediting herds that are being kept free from this serious disease.

C. F. Stone, the veteran breeder of Holsteins, who has on several occasions sold animals to Eastern breeders for high prices, told how he picked out high producing cattle. He placed great stress on the mellowness of the skin and the presence of the rich, yellow color, also the placing of the teats, as this can largely be depended upon as an indication of the future development of the udder. He also considers it of the greatest importance that the rudimentaries in the male be prominent and placed wide apart.

Professor O. E. Reed, who has so successfully built up a high class dairy herd at the agricultural college, showed by means of charts, how dairying in Kansas has been making a steady growth. The value of dairy products in 1885 amounted to four and one-third million dollars, and in 1915, almost fourteen millions. His charts showed that the number of cows milked has steadily increased. He emphasized the importance of giving proper care to dairy cows. He insisted that the charge that warm barns caused tuberculosis, is not borne out by facts. More cows have become diseased and have failed to make good because of exposure than from being too warmly sheltered. Fresh air and cleanliness in barns is very important, but every time the college herd is turned out in the yard during the winter time there is a falling off in the milk flow. A warm barn will not cause tuberculosis if no tubercular animals are introduced into the herd. If a tubercular animal should be brought in, the disease is more apt to be transmitted from animal to animal where they are kept in barns than where they are allowed to run in the open as beef cattle are ordinarily handled.

A banquet was provided by the business men's association of Herington, this being served by the ladies of the Eastern Star. Visitors could not have been more royally entertained.

According to the constitution adopted, the association is to have a meeting on the first Saturday in April and the first Saturday in October each year. The place for holding these meetings is left in the hands of the executive board. We believe this opportunity to hold the meetings in various localities will be of considerable benefit in arousing more interest in dairying in various sections. The place for the meeting in April was not definitely announced, but we gathered from the directors that they favored holding it in some city in Central Kansas where such meeting would be welcome. A meeting of this kind would be of definite value to the community in which it is held, in that it will arouse dairy enthusiasm, and we apprehend that there will be a number of cities competing for the honor of entertaining the Holstein-Friesian Association of Kansas in April. The city that wants this meeting should

not delay, but take the matter up at once with the executive board.

Tribute to the Cow.

Little do we realize the debt we owe the cow. During the dark ages of savagery and barbarism, we find her early ancestors natives of the wild forests of the old world. As the bright rays of civilization penetrated the darkness of that early period, and man called upon the cow, she came forth from her seclusion to share in the efforts that gave us a greater nation and more enlightened people!

For two thousand years she has shown her allegiance to man, sharing alike in his prosperity and adversity, responding nobly to all that was done for her, until through her development she became an idol of the people of her native country.

In 1493, when Columbus made his second voyage to America, the cow came with him—and from that time to the present day she has been a most potent factor in making this, our own country, the greatest nation, with the highest type of womanhood and manhood history has ever known!

Her sons helped till the soil of our ancestors and slowly moved the products of the farm to market. They went with man into the dense forests of the new world, helped clear them for homes, and made cultivation possible for the coming generation—and when the tide of emigration turned westward, they hauled the belongings of the pioneer across the sun-scorched plains and over the great mountain ranges to new homes beyond.

Truly the cow is man's greatest benefactor. Hail, wind, droughts and floods may come, destroy our crops and banish our hopes, but, from what is left, the cow manufactures into the most nourishing and life sustaining foods—and is she not life itself to the thousands of little ones stranded upon the hollow hearts and barren bosoms of modern motherhood? We love her for her docility, her beauty and her usefulness. Her loyalty has never weakened—and should misfortune overtake us, as we become bowed down with the weight of years, we know that in the cow we have a friend that was never known to falter. She pays the debt. She saves the home. God bless the cow—little do we realize the debt we owe her!—E. G. BENNETT, in the 1915 Missouri Farmers' Year Book.

How Clover Enriches Soil.

There is a rather common opinion that the growing of clover and alfalfa enriches the soil in nitrogen, and many even believe that clover in crop rotation will maintain fertility of the soil. These same people are likely to think that the application of limestone phosphate and manure involves much expense and work, and that the returns are much less certain than from other labor and money investments.

Such opinions are largely erroneous. The mere growing of alfalfa on normal land does not enrich it; even the nitrogen is not greatly increased unless the crop is returned to the soil either directly or in farm manure. Rotation with such crops as corn, oats, and clover or alfalfa depletes the soil of all important elements of fertility, and always results ultimately in land ruin on normal soils unless some system of rotation is practiced. Clover takes large amounts of calcium and phosphorus from the soil, and the roots and stubble of the clover crop contain no more nitrogen than the clover itself will take from soils of normal productive power.

WHICH WILL YOU BUY



A "Cream Thief" or a "Savings Bank" Cream Separator

WITH a great many machines or implements used on the farm it doesn't make much difference which of several makes you buy. One may give you a little better or longer service than another, but it's mostly a matter of individual preference and often it makes little difference which one you choose.

Not so with buying a cream separator, however.

There is a big difference in cream separators.

The most wasteful machine on the farm is a cheap, inferior or half worn-out cream separator.

The most profitable machine on the farm is a DE LAVAL Cream Separator

A cream separator is used twice a day, 730 times a year, and if it wastes a little cream every time you use it it's a "cream thief," and an expensive machine even if you got it as a gift.

But if it skims clean to the one or two hundredths of one per cent, as thousands and thousands of tests with a Babcock tester show the De Laval does, then it's a cream saver, and the most profitable machine or implement on the farm—a real "savings bank" for its fortunate owner.

But cleaner skimming isn't the only advantage the De Laval user enjoys.

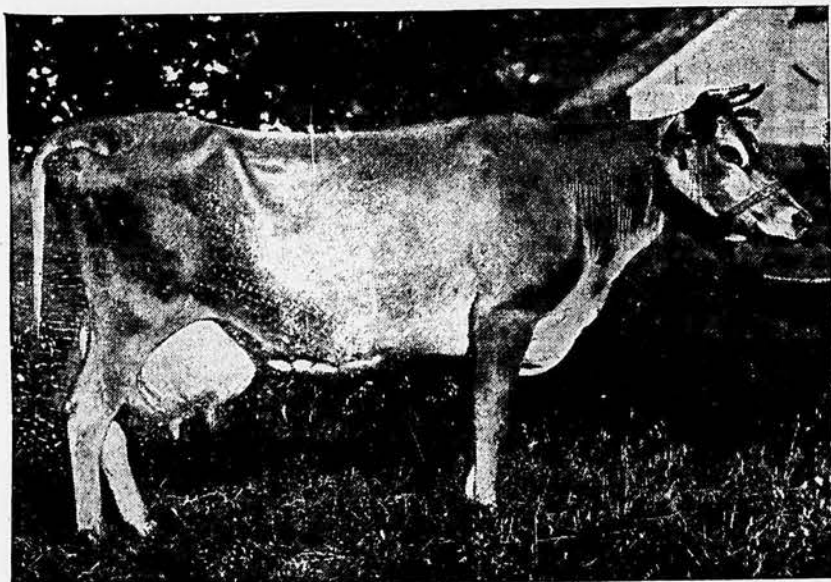
There are many others, such as longer life, easier turning, easier washing, less cost for repairs, and the better quality of De Laval cream, which, together with its cleaner skimming, make the De Laval the best as well as the most economical cream separator.

If you need a De Laval right now there is no reason why you should let its first cost stand in the way, because it may be purchased on such liberal terms that it will actually pay for itself out of its own savings.

A De Laval catalog to be had for the asking tells more fully why the De Laval is a "savings bank" cream separator, or the local De Laval agent will be glad to explain the many points of De Laval superiority. If you don't know the nearest local agent, simply write the nearest De Laval main office as below.

THE DE LAVAL SEPARATOR CO.

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



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ALFALFA and all other crops, a perfect seed bed is as important as to seed or plant. The Western pulverizer, packs and mulches—makes a perfect seed bed—at one operation, without extra horsepower. Especially adapted for breaking crust on winter wheat or other grain—forms the hardest crust into a granular surface mulch without hurting the grain. Stops evaporation—preserves moisture.

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No. 2 Junior—a light running, easy cleaning, close skimming, durable, lifetime guaranteed separator. Skims 95 quarts per hour. We also make four other sizes up to our big 600 lb. capacity machine shown here—all sold at similar low prices and on our liberal terms of only \$2 down and a year to pay.

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You can have 30 days FREE trial and see for yourself how easily one of these splendid machines will earn its own cost and more before you pay. Try it along side of any separator you wish. Keep it if pleased. If not you can return it at our expense and we will refund your \$2 deposit and pay the freight charges both ways. You won't be out one penny. You take no risk. Postal brings Free Catalog Folder and direct from factory offer. Buy from the manufacturers and save money. Write TODAY.

Patented One-Place Aluminum Skimming Device, Rust Proof and Easily Cleaned—Low Down Tank—Oil Bathed Ball Bearings—Easy Turning—Sanitary Frame—Open Milk and Cream Spouts.

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5 Famous Samples

For 10 cents we will gladly mail you one generous package, enough for a good trial each of 5 famous farm seeds, together with our big new 1916 catalog. Catalog is free.

Sweet Clover Genuine White Blossom. Grows anywhere on soil that will grow little else. Improves run down, badly washed fields. Makes good hay and fine pastures. New crop, cleaned and tested.

Kaw Chief Corn Grown on our own Kansas farm. Matures in 95 to 100 days. Yields regularly 75 to 80 bushels to the acre, with good foliage.

Dwarf Milo Maize Straight neck. Drought resisting. White or yellow. 60 to 100 bushels to the acre. Earlier and more productive than Kafir or Crook-neck Milo. 8 to 5 feet high. Straight neck is a great advantage in gathering seeds and cutting heads.

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Here is a prize that will please every live wide-awake boy that likes to shoot. This is NOT A TOY gun, but a regular target or hunting rifle that shoots 22 LONG OR SHORT standard cartridges. It is made by one of the biggest and most reliable fire arms firms in the world and is guaranteed to shoot accurately. We are going to give away several hundred of these fine guns to boys who will get only four one-year subscriptions to Kansas Farmer at \$1 each, the regular subscription price. You can get them in half an hour. We pay express charges, so the gun don't cost you a cent of your money. You can get two three-year subscriptions at \$2 each, just so you send a \$4 club. Address your order to

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GENERAL DAIRY ITEMS

Some farmers are churning butter and selling it for less than they would receive from the sale of the cream which is used in making the butter. Selling cream means less work for the women than making butter. The cream will nearly always bring as much as the butter and often considerably more. The cream buyer offers a market for any quantity of cream at any time.

Any system that will lighten the duties of the women on the farm without decreasing the income should certainly be adopted. When cream is sold all that is necessary is to see that the cream is cooled after being separated and to take it along to town twice a week in winter and three times in summer.

It may be that a few farmers' wives will find special customers that will take the butter at a price equal to that secured for cream, but that does not apply to many. Even then surplus butter will be left on hand at times. Again there may not be enough to supply the customers and dissatisfaction will result. When selling cream these troubles do not come to annoy. Any quantity, much or little, can be sold to the cream buyer at any time and cash received on the spot.

As a rule, unless the home-made butter can be sold at an average price of 25 cents or more, the year around, the income will be more if the cream is sold. At an average of 25 cents the income will be about the same, but a large amount of work will be saved by selling the cream. If the farmer does not have a cream separator he should get one if four cows or more are milked. A machine will more than pay for itself within a year when ten cows are kept by the additional butter saved. Four cows with a separator will make as much butter as five of the same grade without a separator. The fifth one represents the loss in butter fat in the skim milk.

—C. H. ECKLES, Missouri Experiment Station.

Skim-milk Calves Profitable.

Calves fed for 154 days on skim milk at Kansas Experiment Station, Manhattan, under direction of Professor O. E. Reed, dairy husbandman, were fattened at an average cost of \$2.26 per head over a period of 154 days and averaged a gain of 223 pounds per calf, compared with a cost of \$7.00 per head for whole milk feeding and a gain of 287 pounds per head. The average daily gain was 1.51 pounds on skim milk and 1.86 on whole milk. Calves allowed to run with their dams averaged a daily gain of 1.77 pounds or 248 pounds, at a cost of \$4.41 feed. From a practical standpoint whole milk feeding at a cost of more than three times that of skim milk diet is out of the question for the average farmer. The skim-milk calves ate 122 pounds of grain per hundred pounds of gain while whole-milk calves ate 58 pounds of grain and 31.8 pounds of butter fat in the milk. On this basis, Professor Reed found, that 100 pounds of grain equaled forty-eight pounds of butter fat in feeding value.

After the 154-day period the calves, all of them steers, were fed in the feed lot for seven months and the skim milk division made the best gains. Those fed whole milk came second, and those allowed to run with their mothers came last. It was noted that at first skim-milk calves did not look as well as the others, but in time they even surpassed them in thrift because the skim-milk calves were accustomed to eating hay and grain early in life. Therefore they did not notice the change from a milk and grain diet to a grain and hay diet. It required several weeks for the whole-milk calves and the calves allowed with their dams to accustom themselves to the change.

Skim milk contains 90.50 per cent water; whole milk has 87.10. The per cent of fat in skim milk amounts to only .10, but in whole milk it is 3.90 per cent. Casein and albumin in skim milk total 3.57 per cent and in whole milk it is 3.40. Sugar in skim milk is 4.95 per cent and in whole milk it is 4.75. There is a heavy decrease in the amount of butter fat in skim milk but there is also a certain increase in casein, albumin and sugar. The fat can be restored to the diet by feeding grain.

Cream Producers.

We pay at all times the highest market prices for first grade cream. Try us with your next shipment. Ottawa Condensing Co., Ottawa, Kan.—Adv.

Corn and Cowpeas for Silage.

On the farm of R. J. Linscott, Jackson County, corn and cowpeas made a remarkably good yield of silage last

year. Mr. Linscott breeds Jersey cattle, and silage is an important part of their ration. Here is his own story of this record crop of corn and cowpea silage:

"On June 15, 1915, I planted twelve acres of new timber land to corn, putting in 'Cope's Best,' a strain of yellow 100-day corn that has been very highly developed in this section. This land was in very fine condition, had been thoroughly plowed, harrowed and disked, and was planted with disk furrow openers attached to the planter. The corn was put in twelve inches apart and cowpeas dropped between each grain of corn. Both cowpeas and corn came up remarkably even; it was harrowed and cultivated twice, was also hoed once. The season was so excessively wet that further cultivation was impossible.

"This corn made a very remarkable growth, the corn getting to be twelve to fourteen feet high and very even, earing out remarkably well; every stalk had one or more good ears, every fourth stalk averaging two good ears; some stalks had as many as four ears. The cowpeas also made a remarkably good growth, climbing well up on the stalks and bearing very heavy of cowpeas.

"On October 8 we had a killing frost, which killed the cowpeas and the leaves of the corn, but the stalks were not hurt, retaining all the sap. Then followed three days of very heavy dry winds that further dried out the leaves. We commenced cutting this twelve acres of corn with a corn binder the day following the frost and cut it as fast as it was possible to do so. On account of the immense growth of both corn and cowpeas it was very difficult to cut and exceedingly hard on the binder to handle such a tangle of sappy, heavy fodder and corn.

"We put this in the silo October 11 and it made 130 tons of the finest silage I ever saw. In counting the grains of corn in a handful of the cut silage we were unable to pick a handful that had as few as sixteen grains of corn, all having seventeen or more grains of corn to the handful. Try putting seventeen or more big grains of corn in your hand; it is quite a handful by itself. In feeding this silage we find it needs no additional grain except a small amount of bran to balance the ration.

"We had some green alfalfa that we were putting up the other day, and thought we would leave out the silage and feed this green alfalfa. The cows immediately dropped a couple of pounds or more on their milk. When we went back to feeding the silage and left off the alfalfa they came right back to their milk, and even increased it, so eager were they for this very rich corn silage with a considerable sprinkling of cowpeas.

"In testing out the yield of this field we did not care about gathering it in the ear, as we needed it for silage, yet we wanted to know the actual yield, and as near as it was possible to get it, it yielded ninety-three bushels of grain corn to the acre, besides the eleven tons (nearly) of fodder in the way of silage. Of course, a very large part of this eleven tons was composed of grain, as the silage so well shows.

"Although this field was not cultivated very much, yet it was in perfect condition at time of seeding. Seeding was done a month late on account of its being too wet to get to it sooner. The corn and cowpeas very soon covered the entire ground to the exclusion of weeds, but the soil was so good that it kept perfectly mellow. It absorbed and handled the excessive rainfall so well that it kept mellow and loose and in an almost perfect growing condition all season. Thus I handled and raised the biggest corn crop on twelve acres that I ever saw grown. I have, of course, heard of larger crops, but have not seen them."

Southwest Trail Boosts Kansas.

The agricultural advantages of Kansas are given a great deal of space in the current issue of the Southwest Trail, a monthly magazine published by Rock Island lines. An unusual feature of the number is the emphasis laid on the state's educational facilities, along agricultural lines. Two pages are devoted to Kansas State Agricultural College and the various activities through which that institution reaches the farmer. This is considered by the company one of the strong inducements for intending settlers, as distinguished from the usual plan of calling attention only to land buying opportunities.

Kansas excels in providing educational facilities not only for young people, but for the farmer on the farm and for the intending settler. This sort of publicity is in line with the company's established policy in directing homeseekers to localities providing proper agricultural advice.

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Caustic Balsam****Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeney, Capped Hock,
Strained Tendons, Founder, Wind
Puffs, and all lameness from Spavin,
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Cures all skin diseases or Parasites,
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As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc., it is invaluable.
Every bottle of Caustic Balsam sold is
warranted to give satisfaction. Price \$1.50
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its use. Send for descriptive circulars,
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You can remove every one
of them. We guarantee to
kill and bring from the body, dead, in
a very short time, all pin worms and bots,
with the safe and sure remedy.

NEWVERMIFUGE

Absolutely harmless. Can be given to mares
in foal before the eighth month. Horse owners
write us that Newvermifuge has removed from
500 to 800 bots and worms from a single horse.
An animal that is wormy can't help but be ugly
and thin. If your horses are troubled with
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\$1.25, 12 for \$2.00. **SALLING OUT FREE**
with a dozen \$8.00, with 2 dozen \$5.00. Postage paid.
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Dept. D6, 652 7th Street, Milwaukee, Wis.

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as much money as
this opportunity. We offer you the best and easiest
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Be Your Own Boss—enjoy freedom, the pleas-
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that any young man can get. Write today for our great
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A \$45 SADDLE for \$36 Cash

Our latest Saddle Fork
Saddle, 14-inch swell
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derful buggy for
the money and we
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tion KANSAS FARMER.****Some Live Stock Statistics**

THE following from the pen of M.
F. Horine, statistician, Union
Stock Yard & Transit Co., Chi-
cago, will be of interest to stockmen and
farmers of Kansas and adjoining states.

The acute scarcity and high prices of
1912 at all markets for live stock awak-
ened the farmers and stockmen of the
United States, for the first time, to the
fact that the whole country was about
short, not only of animals for market,
but also for breeding stock, especially of
beef breeding cows.

"The effect of this awakening was
shown in the falling off in the receipts
of calves in 1913, declining from 521,512
in 1911 and 505,401 in 1912 to 375,382
in 1913, or a reduction of 28 per cent,
on the Chicago market, and from 245,618
in 1911 to 103,263 in 1915, or a reduction
of 58 per cent, at Kansas City, with simi-
lar decreases elsewhere.

"Now, when a nation is short of breed-
ing stock of any kind, it must first breed
and raise more females to maturity and
add them to the breeding ranks, before it
can begin to breed and raise an adequate
supply of animals for slaughter, and that
is necessarily a slow process, much
slower, in fact, than most people realize,
even among practical farmers and stock-
men.

"Take, for example, the present scar-
city of cattle in the United States. Be-
ginning with the meagre stock of breed-
ing cows on hand at the close of 1912,
they were not again bred until the sum-
mer of 1913 and did not deliver their
calves—(only one-half females)—until
the spring of 1914. These calves will not
be old enough to breed before the sum-
mer of 1916, and it will take them until
the spring of 1917 to deliver their calves
—(only one-half males)—while to raise
and feed these calves for market as ma-
ture beefs will require until the sum-
mer or fall of 1919, at the earliest, be-
fore this country can possibly produce a
normal supply of beef steers ready for
slaughter, while meantime the slaughter
of both male and female cattle and
calves has been going on and will con-
tinue constantly.

"That is a mathematical demonstra-
tion which any practical cattle-raiser
will be able to verify.

"Of course, the comparatively few
female calves that were rescued from
slaughter for breeding purposes in 1913,
were bred in 1915, and the progeny will
begin to appear at market as finished
steers in 1918. But, as the startling
scarcity and record prices for live stock,
when cattle reached \$11.25, calves \$12,
sheep \$2.25 and lambs \$10.60 per 100
pounds on the open Chicago market, did
not develop and attract widespread at-
tention until the latter part of 1912 after
the cattle breeding season for that year
was over, the real effort to increase the
stock of beef cattle in the United States
did not begin until the breeding season
of 1913 arrived, when, for the first time
in a decade or longer, an increased pro-
portion of beef cows were bred, and the
progeny of their descendants cannot
possibly reach market as finished steers
before 1919. Hence, not until 1919, or
later, will it be possible for the United
States to have a normal crop of beef
steers ready for slaughter.

"In view of the above demonstration,
it is idle to talk about there being any
material increase in the number of cat-
tle in this country or to expect relief
from the present scarcity for several
years to come."

Mature Males Sire Best Offspring.

The use of immature sires is a com-
mon mistake made by many live stock
farmers. Such facts of animal breeding
as are now available indicate that under
females produce their strongest and most
average conditions males beget and
useful offspring and most nearly perfect
types after reaching maturity. The
breeding function increases in efficiency
up to maturity and beyond. As the
physical powers decline the reproductive
functions yield offspring of less value.

• The young sire is all too popular on
the average farm. Boars should not be
used until eight months of age and it is
far better to have them two to six
months older before permitting service.
The boar should be in his prime at
three to five years of age. The ram
lamb will give fairly satisfactory service
to a limited number of ewes if dropped
not later than February of the preceding
winter. An increasingly large number

of experienced sheepmen, however, are
insisting on having yearling or two-year-
olds. The bull calf may be permitted to
serve cows at twelve months of age, but
had better be held back until fifteen to
eighteen months old. The stallion, if
growing, is permitted a few mares as a
two-year-old. The number may be in-
creased when he is three, but should not
exceed thirty to thirty-five head. The
five to eighteen-year-old stallion will
stand heavy service if wisely used and
cared for will on the average beget better
offspring, as compared with the colt.

Too often the tried and proven sire,
when no longer useful in one herd, is in
little demand from other stockmen and
is definitely discarded when his breeding
powers are most active and efficient. A
movement for wider use, in many cases
by means of community handling, of
sires of known value and prepotency
would assist materially in raising the
standard of live stock excellence in many
sections.—E. J. IDINGS, Idaho.

Pigeons Carry Hog Cholera.

Pigeons are responsible for about 20
per cent of the spread of hog cholera, ac-
cording to the authorities who are deal-
ing with its eradication. The farmer
who owns or harbors pigeons should
either confine them at home or dispose
of them. Pigeons fly from farm to farm
in search of food which they generally
find in the feed yards. In flying long
distances and visiting many yards they
easily get the germs on their feet and
infect a whole neighborhood before peo-
ple realize that cholera is in their herds.
In 1915 the loss from hog cholera in the
United States was estimated at \$750,-
000,000, and if one-fifth of this can be
attributed to pigeons, they will have to
go.

Enter for Futurity Hog Show.

Poland China hog breeders have until
March 20 to make nominations for the
Kansas Futurity Show to be held at To-
peka this fall. The prizes will amount
to \$750. Unless twenty herds are nomi-
nated the show will not be held. The
Duroc Jersey breeders have until March
15 to nominate. In each case the nomi-
nation fee is \$5. W. M. McFadden,
Union Stock Yards, Chicago, receives fees
and nominations for the Poland Chinas
and J. P. Pfander, Peoria, Ill., for the
Duroc Jerseys. Only five Duroc Jersey
herds were nominated up to a week ago.

Ox Warbles Should Be Destroyed.

Ox warbles are the whitish grubs or
maggots which develop from the eggs
deposited by certain flies known as
warble flies or heel flies, and which in-
jure the hides, reduce milk flow and re-
tard the growth of the animals. The
maggots are commonly found just be-
low the skin on the backs of cattle, in
the spring. Their presence is revealed
by local swellings about the size of
pigeons' eggs, each with a small central
hole or perforation through which the
maggot breathes. From this hole the
maggot, when mature, emerges to enter
the ground and change to the adult or
fly stage. When full grown the grub is
about three-fourths of an inch in length.

In the past trouble from the warbles
has largely been confined to cattle in the
South, but recently the Bureau of Ento-
mology has discovered that a second
species, heretofore not found in this
country, but known to be even a more
serious pest, in Europe, than is our na-
tive warble, has become well established
in certain districts in the northern part
of the United States. While it is proba-
ble that this so-called European ox
warble will not be of as great importance
in the southern part of the United States
as the species already established, there
is every reason to believe that unless
checked it will become generally dis-
tributed throughout the northern half of
the country. This European species is
now generally distributed throughout
New York and the New England states,
and a few specimens have been obtained
from Western Pennsylvania, Western
Maryland, Southern Michigan, Eastern
Iowa and Missouri, and Western Wash-
ington.

The loss from the warble is by no
means limited to the holes the maggots
cut in the hides. Extensive investiga-
tions in Germany and Denmark indicate
that the losses through reduction in milk
in dairy cattle, the retardation of growth
in young stock, and the loss of flesh in

**GOOD
KANSAS
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CHEAP**

Those who located in Central
Kansas 20 years ago are farmer-
kings today. Their land has
made them independent.

Your chance now is in the five
Southwestern Kansas counties
adjacent to the Santa Fe's new
line, where good land is still
cheap.

With railroad facilities this country is
developing fast. Farmers are making
good profits on small investments. It is
the place today for the man with little
money.

Wheat, oats, barley, speltz, kafir and
broom corn, milo and feterita grow abun-
dantly in the Southwest counties referred
to. Chickens, hogs and dairy cattle in-
crease your profits.

Write for our illustrated folder and
particulars of easy-purchase contract by
which you get 160 acres for \$200 to \$300
down, and no further payment on princi-
pal for two years, then balance one-eighth
of purchase price annually, interest only
6%—price \$10 to \$15 an acre. Address

E. T. CARLIDGE,
Santa Fe Land Improvement Co.,
1870 Santa Fe Bldg., Topeka, Kansas

**CUT THE
COST OF
MILKING****How Many Cows Can You Milk an Hour?**

Wouldn't you be more than satisfied if you or
any one of your men could milk from 18 to 25
cows an hour—and do the work thoroughly and
without getting tired? Other dairymen with herds
similar to the size of yours are doing the milking
in from one-half to one-third of the time and
expense with the

**HINMAN MILKER
"A Success For Eight Years"**

Here are a few questions to ask yourself: "If
over 6,000 dairymen can make more money with
the Hinman—why can't I?" "Couldn't I milk
more cows if I had a Hinman?" "Would I have
to keep a hired man the year around if it were
not for getting the cows milked?" "Couldn't I
do more work on the farm if the boy could do
the milking?"

Hinman Milkers are so simple that anyone who
can milk cows by hand can operate them suc-
cessfully, even a young boy or a woman, if
necessary.
There is probably a Hinman user only a few
miles from you. Why don't you call on him, ask
him all about the machine and take hold and
operate for yourself? See that it meets our claims
for it—and your expectations. Let the Milker
speak for itself—and then consider what a Hinman
equipment in your stable will mean to you.

OUR FREE CATALOG

will cost you only a 1c postal—and it may be the
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53-63 Elizabeth St. Oneida, N. Y.

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A SHOE BOIL, CAPPED
HOCK OR BURSITIS****FOR
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will remove them and leave no blemishes.
Reduces any puff or swelling. Does not
blister or remove the hair, and horse can be
worked. \$2 a bottle delivered. Book 6 K free.

ABSORBINE, JR., the antiseptic liniment for man-
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Veins, Varicocides, Allays Pain. Price \$1 and \$2 a bottle
at druggists or delivered. Will tell more if you write.

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The Increased Capacity to Silo Will
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GERMAN DISTEMPER REMEDY
For Distemper, Coughs, Colds, Epizootic, etc., in Horses
and Stock.
Fifty cents and \$1 a bottle at all druggists or direct.
German Distemper Remedy Co., Jackson, Michigan.

GOPHER TRAPS something the gophers can't
cover up. Circular free.
A. F. Renken, Box 32, Kramer, Neb.

all classes of animals are twofold greater than the damage done to the hides. In some of these tests the early extraction of the grubs from the backs of infested cattle resulted in an increase of nearly twenty-five per cent in the milk production. Animals from which the grubs had been extracted showed a gain of more than five per cent in weight over similar animals in which the pests were allowed to develop normally.

Thus far the veterinarians and entomologists of the Federal Department of Agriculture have determined no better way of controlling these pests than through the systematic extraction and destruction of the grubs from the backs of infested animals.

When the larvæ are nearly ready to leave their host they may be easily squeezed out by pressing the swelling with the fingers, but if not so far developed it is often very difficult to get them out by squeezing. In such cases a slender pair of forceps may be used for pulling them out. If the swelling and its openings are still very small the best way of extracting the grub is to make an incision with a knife, after which the grub can be squeezed out by applying strong pressure. Kill the grub when removed.

It is important that warbles be removed as early in their development as possible. This relieves the infested animals from the irritation and prevents the enlargement of the exit holes. While this practice is not applicable to ranch conditions, it is easily put into effect on small farms and in dairies. In the Northern states the extraction should be begun in February or March. The cattle should be gone over two or three times at monthly intervals. If no grubs are allowed to drop to the ground and reach maturity the number appearing in cattle in subsequent years will be materially reduced, and if extraction is followed up for several years almost complete eradication will result. Of course, it is important where possible to get concerted action among the stockmen in the destruction of these pests.

Cane For Silage.

Last spring several fellows got into print with the story that Seeded Ribbon cane was the best for silage on account of its immense tonnage and great sweetness. Just like a whole lot of other fellows, we tried it, but fortunately upon a small scale.

The seed bed was an old Bermuda pasture. This used to be the poorest land upon our place, but now the best on account of its having been in Bermuda pasture for several years. Upon this Bermuda sod we planted Seeded Ribbon and Sumac cane. Also some feterita and Darso, the new grain sorghum. The cultivation was the same, but the yield was very different. The Sumac cane was

It is our experience that kafir makes a better silage than cane. The cane is a heavier yielder, but it is apt to sour. Besides it is not as heavy a yielder of seed as the kafir. If ribbon cane would only turn to molasses in the silo we would have a high grade of molasses feed, but it turns to vinegar, which neither catches flies nor makes fat cattle. In days gone by corn was considered the only suitable silage crop, but later we have found kafir good, and the sumac cane is good but the ribbon cane did not prove satisfactory.

We are learning things all the time. We will know what to grow after awhile. We are all satisfied that alfalfa is the best hay crop upon land suitable for its growth, and that Bermuda is the best pasture grass upon lands in our section not suitable for alfalfa. We know that corn is good where it can be grown, but kafir will produce where corn will not.

We are now experimenting with a new grain sorghum known as Darso, which gives great promise. Its job is the production of grain upon a short, stout stalk. The forage is of a fine quality, though it is a dwarf.—BERMUDA MITCHELL, Oklahoma.

Disposal of Dead Animals.

Often when animals die on the farm no disposal is made of their carcasses other

than to drag them into a field or a nearby woods, where they are left on the surface of the ground to decompose or to be eaten by buzzards, crows, dogs and other scavengers, or animals which feed on carrion.

This practice cannot be too severely condemned, because it contributes seriously to the dissemination of disease germs and the perpetuation of infectious diseases.

The carcasses of animals which have succumbed to infectious diseases like anthrax, hog cholera, blackleg, tuberculosis, etc., are charged with myriads of virulent disease germs, and just as long as they remain where scavengers can reach them and portions of them can be carried away promiscuously, they are a dangerous menace over a large territory to all animals which are liable to be attacked by disease germs. Even carcasses of animals which have died from other causes than infectious diseases, unless they are disposed of in a proper way, are a source of danger. Left on the surface of the ground, their odor soon invites scavengers to congregate and to bring with them the infectious material with which they may have become contaminated by eating carrion elsewhere.

Dead animals on the farm should be buried deep enough to prevent them from being dug up again, or they should be

burned. To burn large carcasses like those of dead horses and cattle is difficult and laborious and requires a large quantity of fuel. In most instances it is more economical to bury them. All animals which have died of infectious diseases and are buried should be covered with a heavy layer of lime before the graves are closed.

In the winter, when the ground is frozen, it is more difficult to dig graves than at other seasons of the year, but it is just in cold weather that disease germs remain alive and virulent longest in dead organic matter and that scavengers travel the longest distances, have the best appetites, and are most likely to carry disease germs on and in their bodies. The extra trouble of digging graves in the winter is easily offset by the greater danger it counteracts. Low temperature prevents the multiplication of disease germs, but many kinds of disease germs are not killed or deprived of their pernicious possibilities by exposure to a lower temperature than the lowest reached during an icy, arctic winter.

Everywhere farmers not only should attend to the proper and safe disposal of the bodies of their own animals which unfortunately die, but they should insist on the proper disposal of the bodies of all animals which die anywhere in the regions in which their farms are located.

12 Grafted Apple Trees

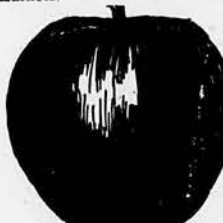
Given FREE!



3 GENUINE DELICIOUS
This apple has, ever since its introduction, secured and maintained the highest price ever paid for any apple. A beautiful deep red, shading to golden yellow at the blossom end. Of wonderful flavor and aroma.



3 STAYMAN WINESAP
Deep, rich red in color, it is a marked improvement over the old Winesap, both in appearance and quality. It is a universal favorite in all markets.



3 JONATHAN
The Jonathan is liked by everyone. Its deep wine color apparently reflects its rich winey flavor. Invariably in good demand at high prices.



3 WEALTHY
One of the first really good apples of the season, and a general favorite, especially for eating out of hand.

This Home Orchard Collection

CONSISTING OF

12 Grafted Apple Trees

Given with Kansas Farmer This collection of Twelve Grafted Apple Trees which we want to send you, consists of three trees each, of four varieties of proven merit. They are hardy, will thrive anywhere, and provide a nice succession of quality fruit.

INCLUDING THREE GENUINE DELICIOUS, THREE STAYMAN WINESAP, THREE JONATHAN AND THREE WEALTHY

These Trees are genuine grafted stock, guaranteed true to name, sound and healthy. We have arranged with one of the largest nurseries in the country for a supply of these grafted trees, and we want to send you a set of twelve. Whether your place is large or small, these twelve trees will find a place, and add to its beauty and value.

Early Maturing Varieties such as these four grand varieties, mean that you will have fruit from this orchard in just a few years. In three years you should have some apples from these trees; in five years you should have an abundance. No better varieties could be found for a Model Home Apple Orchard than the four in this collection.

Complete Instructions are sent with each set of twelve trees, practical, simple directions that explain just how to plant and take care of these twelve trees. By following these instructions you will have, in a few years, an orchard that will prove a constant source of pleasure and profit to you.

Our Offer is made possible by a comparatively new method of propagating the apple tree. Instead of the slow, laborious method of "budding" a "seedling" apple tree to obtain the variety desired, a much quicker method is now employed. Healthy, vigorous branches are clipped from trees selected for their size and yield. To each of these branches a strong root from a tree of the same type is carefully grafted, and the little tree, thus complete, is ready to be set out. The twelve little trees we send you are all produced in this manner. They take root at once, make thrifty growth, and develop into large, heavy-bearing orchard trees as soon or sooner than a large tree set out at the same time. These little trees are about a foot long, and the thickness of a lead pencil. You could not secure trees of better quality, or trees that would come into bearing quicker, if you were to pay a dollar apiece for them. Thousands of trees are sold every year and sent packed in damp moss at the proper time for planting.

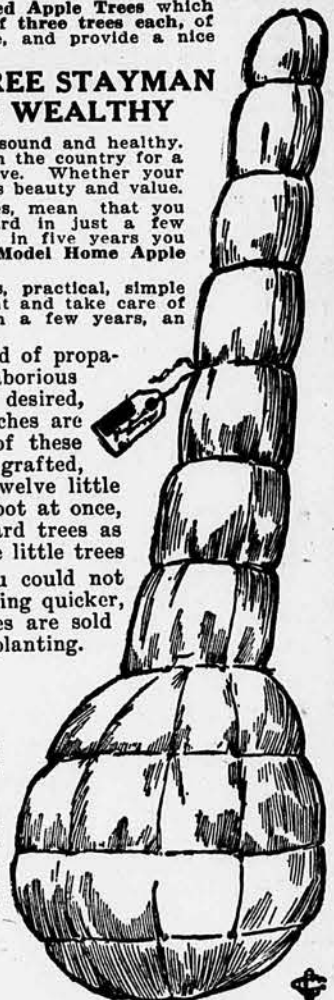
How to Get These Trees

If you will send only \$1.00, and 15 cents extra for handling —\$1.15 in all—we will enter or renew your subscription to **KANSAS FARMER** for one year and send the **TWELVE (12) Apple Trees** postpaid to you; or, if you will send \$2.15, we will renew your subscription two years and send **KANSAS FARMER** one year to some new subscriber you may name, and send you the trees. As the demand for these trees is enormous, you should take advantage of this offer at once. We reserve the right to refund money after the supply is exhausted.

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These twelve grafted apple trees are packed in sphagnum moss, are well wrapped in heavy oiled paper, and securely tied. They will stand the longest trip by parcel post, and arrive in perfect condition for planting.



SIR BEETS CORNUCOPIA NETHERLAND, THIRCE GRAND CHAMPION MINNESOTA STATE FAIR, ONCE NATIONAL DAIRY SHOW.—OWNED BY W. F. MOSCRIP

good and made a yield of twelve tons per acre. We did not weigh the Ribbon cane. It grew and kept growing until in October it looked like a pine forest. It was so large that it was difficult to handle. It was so full of juice that there was no need of water.

The silo was filled about three-fourths full of the Sumac cane and then just before frost was filled with the ribbon cane.

We were certainly discouraged when we opened the silo. A ton is a reasonable amount of spoiled silage to remove from the top, but it was double that with the ribbon cane silage. When we came to what appeared to be good silage we sprinkled some cottonseed meal upon it and placed it in the feed bunks. The cattle followed us from bunk to bunk and then to the barn. The next morning we cleaned the bunks and tried it again with the same results. We tasted it and found we had some low grade vinegar. Besides this we found about two feet around the outer edge spoiled.

We kept taking it out with about the same results for several days, until we came to good silage that was eaten greedily by the cattle. We had come to the sumac cane silage.

The Winfield Raspberry



How being planted by the thousands commercially—because it lives and thrives AND SAYS through every season—does not winter-kill, and yields big regularly in up to of summer. One bush produces a crop without a failure. You can grow well—easily. Send today for full particulars. Folder, please, a 21¢ fruit. Book telling all about this wonderful berry—how to raise it—how it's larger, finer, better fruit. Note you \$1 to \$1.50 more per crate. No charge. Just send your name. The Winfield Nurseries 404 Court St. Winfield, Kan.

Buy Trees At Wholesale

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Apple trees \$1.00 per 100; Peach \$2.00 per 100; Cherries \$1.50 per 100; Concord Grapes \$2.00 per 100; Dunlap Strawberries \$2.25 per 1000; Everbearing Strawberries \$2.50 per 100. Every thing in fruit trees, plants and ornamentals. Send for our Free Catalog. **HOLZINGER BROTHERS NURSERY, BOX 108, ROSENDALE, KANSAS.**

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Self-contained marvel. No power bills—no levers—no torn clothes. Washes tubful in six minutes. Only \$1—worth \$10—that's why our agents hold record for largest percentage of sales. Profits nearly 200 per cent—no end to it. Sample only \$1. Get free particulars. **W. S. OIL WASHING CO., Toledo, Ohio, 3047 Detroit Ave.**

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All standard varieties at \$1.50 to \$2.50 per thousand. Everbearing at \$1.50 per hundred, postpaid. Asparagus at \$2.50 per thousand. Grapes, raspberries, etc. Catalog free. Large stock. Try us. **THE ALLEGAN PLANT CO., Allegan, Mich.**

New Feather Beds Only \$5.40

6 FOUND FEATHER PILLOWS \$1.00 PER PAIR. New, clean, odorless, sanitary and dustless feathers. Best ticking. Satisfaction guaranteed. Write for FREE catalog and our wonderful Free Offer. Agents wanted. Address **Southern Feather & Pillow Co., Dept. 118 Greensboro, N. C.**

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A Modern Topeka Home

TO SELL AT A BARGAIN
Inside location, on a good street, near school. Seven-room house, all modern conveniences. Good barn. This proposition will interest anyone wanting a choice location and a good home. Priced to sell. No trades. Address

BOX 5, Care KANSAS FARMER

THIS WILL INTEREST YOU

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.**

TWO BIG LAND BARGAINS

160-Acre Well Improved Farm—80 acres cultivated, balance pasture and meadow. 1 1/4 miles good high school town; good soil; big snap. Worth \$75. Priced at \$45 per acre for quick sale.

210-Acre Alfalfa Creek Bottom Farm—60 acres now in alfalfa. Some fine walnut timber. 160 acres as good soil as there is in Kansas. Price only \$50 per acre. Come at once and see these farms.

M. T. SPONG - FREDONIA, KANSAS

FOR SALE

A non-resident has ordered sold at rock bottom price, 160 acres, Trego County pasture land. Title perfect. This will bear close inspection by those who have money to invest. For description, write the agent. **C. M. BELL, Box 106, Utica, Ness Co., Kan.**

OKANOGAN VALLEY irrigated land for sale. Write for prices. Owner, **C. M. BOTTOMLEY, OROVILLE, WASH.**

GENUINE BARGAIN—Quarter section 3 1/4 miles from market, no buildings; 120 acres in wheat; average rental for three years, over \$380. Surrounding lands, \$40 an acre. This goes for \$30 for quick sale. Terms. No trade. **JAS. E. LITTLE, LA CROSSE, KANSAS**

Irrigated Alfalfa Land, Upper Rio Grande Valley, \$15 to \$35 an acre including water right. Wheat land Western Kansas, Eastern Colorado, \$5 and up. Call or write. **Morris Land Company (Owners), Lawrence, Kansas.**

160 Acres in Eastern Colorado, good five-room house, barn, soft water. Price, \$3,500. 160 Acres, 24 broken, 5 acres in alfalfa, \$2,000. For particulars write **BOX 25, BOYERO, COLORADO.**

480 ACRES Fruit and Pasture Land, this county, \$2.35 per acre. Government title. **SOUTHERN REALTY CO., McAlester, Okla.**

IRRIGATED LANDS FOR SALE On the famous Twin Falls tract. Write for prices. **A. V. MOUNCE, BUHL, IDAHO.**

When Writing to Advertisers, Please Mention Kansas Farmer.



Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

Just to let thy Father do
What He will;
Just to know that He is true,
And be still.
Just to follow hour by hour
As He leadeth;
Just to trust Him, this is all!
Then the day will surely be
Peaceful, whatever befall.
Bright and blessed, calm and free.
—Havergal.

If your cake sticks to the pan and threatens to break to pieces when you take it out, turn the pan upside down and lay on the bottom of it a cloth wrung out of water. After about five minutes the cake can be removed without its crumbling to pieces.

On ironing days fold an old quilt four double and stand on it. You will be surprised how much less tired you will be when your work is finished.

To cook potatoes, rice or beans in artesian or hard well water without turning yellow, put a few drops of good vinegar in the water when you start them to cooking.

If your mattress has become stained, make a paste of any kind of good starch and cold water, and spread it thickly over the spots, covering them well, then

place the mattress out in the sun and leave it there for several hours. When the paste is removed the stains should have disappeared.

When scaling fish, hold them under water and the scales cannot fly in all directions, and the work is accomplished much more easily and quickly.

Vary the school lunches by substituting whole wheat or raisin bread for the wheat bread. Either is palatable and very wholesome. Peanut butter to which has been added a little salad dressing, will also afford a pleasant change as a spread.

Simple House Dresses.

If you have never worn house dresses buttoned the full length of the front, try this style the next time you need a new work dress. It requires the working of a few more buttonholes, but this work you do while sitting, and it generally lessens the time spent over the ironing board and which is much more tiring.

Making the house dresses simply, means that the work of laundering will be much easier. Nothing is so appropriate for the working hours as a neat, one-piece, washable dress, and there

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 Dress-maker," 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. 7574—Girls' Dress: Cut in sizes 6 to 14 years. Plain and plaid materials are combined in making this pretty dress. The dress closes at the left side of the front and the sleeves may be long or short. There is a pretty round collar at the neck and cuffs finish the long sleeves. No. 7582—Boys' Blouse: Cut in sizes 8, 10, 12, 14 and 16 years. Percale, flannel, madras and similar materials are used for these blouses. This blouse has a center front closing and plain sleeves with small cuff ending. The collar is removable. No. 7555—Girls' Dress: Cut in sizes 6, 8, 10, 12 and 14 years. This dress consists of a separate blouse and skirt. The skirt is of plaid material and the blouse is of plain material. The skirt is cut in three gores. No. 7559—Ladies' Dress: Cut in sizes 34 to 42 inches bust measure. Serge, gabardine or broadcloth can be used to make this dress, with the trimming and in two gores and is joined to a yoke. No. 7118—Ladies' Yoke Skirt: Cut in sizes 22 to 32 inches waist measure. In this handsome walking skirt, the front gore forms a panel extending from the belt to the hem. At sides and back there is a deep yoke and below this the skirt is plain, with reversed plaits at the sides and in the center of the back. This gives a measurement of 2 1/4 yards to the lower edge in the medium size. No. 7572—Misses' Dress: Cut in sizes 14 to 20 years. Plaid and plain materials are combined in making this stylish looking dress. The dress closes at the front and may be made with either long or short sleeves. The skirt is cut in two gores.

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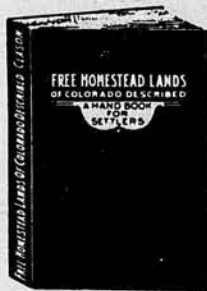
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Water-Drinking.

Do not neglect the drinking of much pure water throughout the day. This habit has a very toning effect upon the disposition, the complexion, the appetite, and the ambition. Water acts as a stimulant to the kidneys, the bowels, the pores of the skin, and the digestive system. Water taken at meals will not be harmful if it is not used for the purpose of washing down the food.

Make sure your water supply is pure, then drink freely of it.

Caring for the Human Machine.

If you had an automobile that was your only means of getting about, and that you could not under any circumstances replace with a new car in case you should disable it, you would take the greatest possible care of it. Each of us finds himself exactly in that situation in regard to the machine we call the human body; yet we neglect the body more or less, and sometimes abuse it outrageously. We expect it to endure neglect, to withstand abuse, and after years of hard usage to be in serviceable condition. —Rupert Blue in The Youth's Companion.

Talked to the Wrong Man.

The other day an important looking gentleman took a seat beside a quiet man in an Arkansas railway carriage, and began a conversation.

"I'm going up to Little Rock," he said, "to get a pardon for a convicted thief. I'm not personally acquainted with the governor, but he can't afford to refuse me."

"Is the fellow guilty?" asked the man.

"Of course he is; but that makes no difference. His friends have agreed to give me \$500 if I get him out, and the thermometer is very low when I can't put up a good talk. Where are you traveling?"

"Going to Little Rock."

"Do you live there?"

"Yes."

"Perhaps you might be of some service to me. What business are you in?"

"I am the governor."

Attention, Boys and Girls.

Have you been reading the boys' and girls' letters we have been printing the past few weeks? Do you belong to an agricultural club of any kind? If so, you must have an interesting story to tell about your work last year.

We would be very glad to hear from you. Write us about your work and send us a picture of yourself and your garden, or your pig, corn field, sewing work, or canned products.

Or, if your school is doing something different than the work done in other schools, tell us about this.

We are always interested in letters received from KANSAS FARMER readers, and we hope those from the younger members of the family may continue to come. Send your letter to the Editor of KANSAS FARMER, Topeka, Kansas.

Sacrificing the Baby.

If you are an indulgent grandmother, you may not at first reading take this bit of advice in the kindly spirit in which it is intended. But we feel sure that when you have quietly thought the matter over, you will agree there is logic in the statements.

We have all known mothers whose simple but effective system of caring for

the baby was entirely shattered when some fond relative or friend came for a visit. Rather than injure the feelings of the visitor, she was permitted to prescribe and care for the baby according to her own ideas, though they were very different from those of the mother and not nearly so good.

The injury to the baby was done unconsciously—so far as both the mother and visitor were concerned—but nevertheless done. And at the end of the visit the mother found it almost impossible to again practice her own system.

This is an injustice to both the mother and the child, and should not be tolerated. The well-meaning visitor should not be allowed to interfere with baby's habits and regularity. This can be brought about in a kindly way and in most cases the visitor will sooner or later realize the wisdom of the mother's course—she will understand the importance of the child's future as compared with the gratification of her desire to show her love by many little needless attentions without which the child will thrive better.

Every child has an individuality, and the mother best knows that individuality and best understands how to develop or change it.

The mother also knows the number of daily tasks she has to do and how much time is required to do this work, and of necessity divides her time between the baby and other duties. This is another reason why her system should be recognized by the visitor, for the time of leaving is sure to come, and if the baby has been indulged to the extent that he requires the most of one person's time, the mother will be greatly inconvenienced when she finds herself alone again with the care of the baby, her household duties, and the gratification of Baby's every whim, to be given attention.

Cleaning Aluminum Tea-Kettle.

The lime deposit on the inside of an aluminum tea-kettle can be removed with nitric acid. Do not allow the acid to come in contact with the hands as it is very corrosive. A good way to avoid this, is to make a swab on the end of a stock long enough to reach all parts of the kettle, and with which the acid can be applied.

When cleaned, the kettle should be thoroughly washed with hot water.

Advice for the Minister.

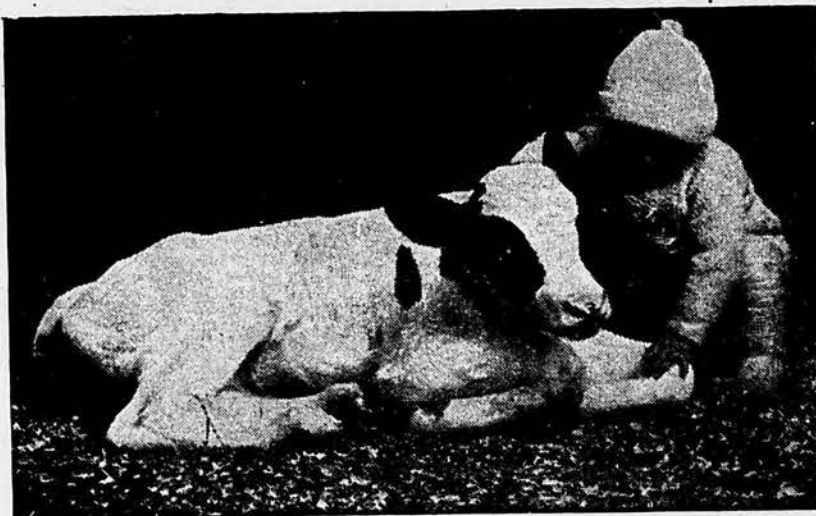
In preaching, the minister had been rather long-winded, when the young bride remembered that she had left the dinner in the gas range without regulating the flame. She hastily wrote a note and slipped it to her husband, who was an usher. He, thinking it was intended for the minister, calmly walked up and laid it on the pulpit.

The minister paused in the midst of his sermon and took the note with a smile which changed into a terrific frown as he read:

"Please hurry home and shut off the gas."

Quarterly 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.



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"I Know They'll Be So Good I Just Can't Wait"

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Here it is—the one sure, safe, scientific chick feed. The feed that brings them through the first two weeks—the critical period. Don't permit rump, dysentery and other diseases to kill off your chicks when for a few cents you can keep them well. You will lose hardly more than 5 or 10 chicks out of every hundred—if—right from the start—you will feed

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140 Egg Incubator } BOTH \$10
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If ordered together. 30 days Freight trial, 10-year Guarantee. Paid Order direct from this advertiser. Money-back guarantee if not satisfied. Ironclad Incubator is covered with galvanized iron, triple walls, Rockies or copper tank, spray egg test. Set up ready to run. The brooder is roomy and well made. Send for free catalogue. Ironclad Incubator Co., Box 151, Racine, Wis. (3)

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On One Gallon of Oil—One, Filling of Tank!

RAYO Incubators produce higher average hatches because center heat insures even temperature. Hinged glass top puts eggs, thermometer and all in plain sight, saving labor. Oil tank needs but one filling for entire hatch. Flame regulator saves 3 to 6 gals. oil every hatch. Hatching chart and money making book on request. Write for them and new catalog. Rayo Incubator Co., U.D. Sta 5354, Omaha, Neb.



Tells why chicks die

E. J. Reefer, the poultry expert, 4633 Farmer Bldg., Kansas City, Mo., is giving away free a valuable book entitled, "White Diarrhoea and How to Cure It." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 98 per cent of every hatch. All poultry raisers should certainly write Mr. Reefer for one of these valuable FREE books.

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.

MONEY IN POULTRY Start small. Grow big. Get better eggs. Keep healthy fowls. Save your chicks. Our Big Book Tells how. Shows how to select best layers, plans for houses, FREE. Crescent Poultry Farms, Box 55, Des Moines, Iowa



Care of Growing Chicks

A LARGE number of farmers make the serious mistake of rearing their chickens year after year on the same ground. Would you think of raising corn year after year on the same ground? Would they for a minute think of leaving the cabbage plants in the hot bed and expect a good crop of solid headed cabbage heads? Would they think of rearing their colts, calves, or lambs in the barnyard? The fact is they would not dream of doing such a thing, but when it comes to raising chickens, they do the very thing; they keep them in the small coops, large enough for them when a few days old, but entirely too small for them after six or seven weeks of age.

We earnestly urge all farmers to give their growing chickens a fair chance with the rest of their live stock. This can only be done by rearing them under similar conditions. Raise them on fresh ground each year. By this we mean that if you have been rearing them in the back yard, we would rear them on other ground this year.

As soon as they are weaned or can do without heat, move them into larger movable houses, unless the house in which they were started is large enough to comfortably accommodate them to maturity.

Separate the sexes as soon as they can be distinguished, placing each by itself. Both will do better. The pullets especially should not be crowded nor those males intended for breeding purposes the next year.

Keep the chicks free from lice and health.

The chicks should be taught to use the roosts as soon as possible, the sooner the better. They always grow better when roosting than when crowding into the corners of the house, which they are apt to do. We have also noticed that chicks taught to roost early grow a much better coat of feathers; hence can stand the damp and rough winters better. Their roosting on the floor causes many diseases like rump, cold, sore head, indigestion, and rheumatism. It also causes leg weakness and crooked breast bones. Get them on the roost as soon as possible. We like to give them a chance to use the roosts about a week before they are weaned or the heat is removed.

A good place for the growing chicks is in houses colonized out in a large orchard or woodlot, where they have plenty of range, grass, and shade. If a brook or stream should wind its way through the orchard or woodlot, the location would be about ideal. Keep the grass cut short.

One year we placed our movable colony house along the banks of a brook that never went dry. Here it was necessary for us to put up artificial shade, because natural shade was not available. The way we did it was to make a frame 6'x11' out of 6" boards. This frame was placed on legs about 18" from the ground, sloping toward the south. The frame was next covered with hay and either wired down or weighted down with fence rails or rocks. Castor beans also make desirable shade. All of the movable colony houses of various sizes are blocked up from the ground about 16"; this providing a retreat for the chicks when attacked by hawks or crows and to provide shade. Growing stock, in order to do well, require plenty of shade, fresh water and green grass.

Our growing stock is always fed by the hopper method. A large self-feeding, non-wasting, wooden, outdoor hopper is placed half way between two colony houses. These hoppers will this year contain the following grain mixture: Sixty pounds corn, kafir, or milo, 30 pounds heavy oats; 30 pounds barley and 30 pounds good grade wheat screenings. The following dry mash mixtures are found in another compartment of the same hopper: Sixty pounds corn or milo meal, 50 pounds wheat middlings, 30 pounds wheat bran, 20 pounds oil meal or cottonseed meal, 40 pounds beef scrap, and 1 pound salt. Grit, oyster shell, and fine granulated bone are kept before them all the time in separate compartments of the same hopper. They are fed all the milk, sweet or sour, that they will consume.—Texas College Station.

A reader asks how to tell which eggs are fertile before putting them in the incubator. It is an absolute impossibility to detect the infertile eggs from the

fertile by their appearance. In selecting eggs for the incubator, it is always a good plan to avoid using those with thin shells or those of odd shapes, but the fertility cannot be determined until they have been in the incubator long enough to test them by holding them up to the light.

The hatching season is now with us, and fortunate is the man who has early-hatched chicks.

But more fortunate still will he be when he has raised those chicks into full-fledged fowls.

For there is many a slip between the hatching of a chick and the frying or the roasting of it.

A good-sized chick in the frying pan is worth half a dozen just out of the shell.

When everything goes along swimmingly in the poultry business; with the hens laying lots of eggs, and the incubators turning out lots of broilers, it is a very pleasant business to be in; but when calamity comes, and disease takes away most of the flock, it is apt to discourage most any one. It is the person who sticks to the business in spite of adversities, that generally makes a success of the business. One of the best preventives of calamity in the poultry business is to see that everything is kept perfectly clean.

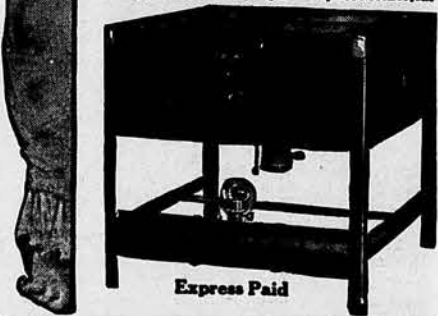
Some people cover the floor of their brooders with sawdust, but it is not a good plan, for the young chicks pick up quite a quantity of it, and it clogs the crop and is liable to prove fatal if they eat too much of it. Others cover the floor with bran and this is a good thing were it not for its cost. The chicks eat a lot of bran and it is good for them, but they also soil a large quantity of it, which must be taken out every few days and thrown away. This, of course, is a serious loss, especially where large quantities of chicks are raised. The ideal covering for the brooder floor is alfalfa leaves, or the refuse from the barn loft. It benefits them to eat the alfalfa leaves, and they can be removed as soon as soiled and fresh leaves provided. It pays to be on the safe side and renew whatever you have on the floor of the brooder quite often, rather than have the chicks exposed to severe sickness by eating filthy food.

All poultry flocks ought to be shelling out eggs these days, and if your flock is not producing many, there is something radically wrong about the feeding or care of it. If you are not getting as many eggs as you think you ought to get, try feeding your flock some animal food, either meat scraps, dried blood, fresh ground bone or skim milk. It makes all the difference in the world between profit and loss as to whether or not you are feeding the correct ingredients to your hens. Feed as varied a ration of grains as you can to your fowls, but be sure and not forget the animal food. Experts at the experiment stations, men who are paid big salaries for finding out things, state that they are certain that hens that are fed some animal food in addition to other rations, will lay twice as many eggs as hens that are fed simply on grains.

Our neighbor, Mr. Modlin, who raises chicks by the hundred, and has made a success of it, does not feed them any whole grains until they are four or five weeks old. For the first two weeks he feeds a johnny-cake made with corn meal, buttermilk and any infertile eggs that have been tested out of the incubator. This johnny-cake he grinds up in a meat chopper and feeds dry and crumbly. Then he feeds a mixture composed of equal parts of rolled oats, cornmeal, wheat middlings and wheat bran, and one part of charcoal, grit and beef scraps. He has the floor of the brooder covered with bran, of which the chicks eat considerably. He feeds the chicks every two hours, what they will eat up clean. Mr. Modlin, in years past, has experimented by feeding small grain and seeds to his chicks, but finds this newer method much more satisfactory and any one that sees the lot of thirty, healthy chicks he has now on hand would soon

Look Through the Glass Top

X-Ray Incubators
Hinged Glass Top permits you to see the hatch, read the thermometer and examine the hatching chamber without opening machine. Fill Lamp Once and You're Through. Put one gallon of oil in the X-Ray tank, light the lamp and X-Ray does the work. One gallon of oil—one filling—for entire hatch. X-Ray automatic trip keeps heat at proper temperature. Send for free book No. 64 on X-Ray Incubators and Brooders. Express prepaid to practically all points. X-Ray Incubator Co., Dept. 64, Des Moines, Ia.



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Every Week on Chicks. Write me for details showing how beginners with Belle City outfits make \$10 to \$25 a week on day-old chicks. Get the facts! Any man, woman, boy or girl can do it by following my plan and using my

25 TIMES
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be convinced that his method of feeding and caring for them is all right. He has just built a large brooder house in which he keeps all his indoor brooders and chicks until the weather moderates sufficient to let them outdoors. He has some Rhode Island Reds now that are large enough to fry, and if he didn't keep a lock on his brooder-house door at nights, there might be some frying going on at the writer's residence.

Colony houses for the brooding and rearing of young chicks are now getting to be quite prevalent, and it is a good and safe way to raise them to maturity. If you hatch your chicks in incubators, it is well to have a brooder that can be used as a colony house as well. If the brooder is a large one it can be placed in a spot by itself, aloof from the other chicks, and with a little care on the part of the attendant, the chicks will grow to maturity and make it their permanent home. If your brooder is a small one, or an inside brooder, then you should place it in a small building by itself and the chicks will run in and out of it at will. After the chicks are large enough, the brooder can be taken out of this house and roosts placed in it and it becomes the home of this lot as long as the owner desires. If the chicks are hatched by hens, two or three hens can be set at the same time, and when the chicks have hatched, all of them can be placed with one hen in one of these colony houses, and they will grow and thrive wonderfully. If the house is warm and well built one hen can take care of fifty chicks. While it is best to let the chicks have free range, the hen should be kept in the house, so that the chicks may have a place to hover and be sheltered whenever they please. The attendant should see that the chicks are kept indoors during wet weather and on the approach of storms. We are satisfied that a much greater percentage of chicks can be raised in colony houses than in the usual manner of small coops. More room is needed and the expense of making the colony houses is greater than coops, but they will pay for themselves in the course of one season in the extra number of chicks that are raised to maturity. As we have often said, it is the number of birds that are raised to maturity that count, and not the number that are hatched.

The time of year is approaching when "cackleberries" will be abundant. The well-filled egg baskets will soon bring down the price of eggs. But a little time and extra care will bring an increased reward. Instead of sending a general mixture of eggs in buckets or case to market, pick out the largest and most uniform in size and color, place in dozen cartons (which can be obtained reasonably at wholesale) and find some progressive merchant willing to pay extra for them. If you cannot find such a one, there are progressive housewives who will gladly put a few more cents into guaranteed fresh, clean eggs. Create a market and the increase will soon pay for the trouble.

Don't require your fowls to be the victims of guess work any longer. Keep an account with your flock. "Play fair" with the hens, they deserve it. One of the needs of the poultry man is a system of accounting. It is hard otherwise to know what you are doing. Especially is this true on the farm, where much of the feed is really picked up. We have always estimated that the eggs and chickens consumed on the farm, from a flock of 100 hens would fully compensate for their feed.

Are you planning to shut up Mr. Rooster as soon as the hatching season is over? It will mean money in your pocket, for the infertile egg is the quality egg. A sure test of their respective keeping qualities is shown by incubation. An infertile egg will stand five or six days incubation and still be a good egg, while a fertile egg begins to show blood rings after 36 hours incubation. The warm summer weather has the same comparative effects. The removal of the cockerels has absolutely no effect on the quantity of eggs produced, but from the better quality insured, you will realize more money and the satisfaction of no loss.

Remember, while little chickens thrive in the sunshine, they must have shade also. If there is no natural shelter from the sun's rays, place boards on small posts to provide a cool and airy retreat.

A good thing to have on hand is a box or two of sprouted oats. A handful of these cut into small bits will be greatly relished by your young chicks.

The law of preferment is just as established among chickens as among

animals. Is there a vigorous, healthy hen in your flock that lays regularly a perfect beauty of an egg but always infertile? Send her visiting, place her in pens headed by different males until the fertility of the egg proves she has found her affinity.

Sour milk is a splendid growth producer, but should form a steady diet and not be fed spasmodically.

Water pans and feeding dishes should be thoroughly scalded often with boiling water.

An older chick placed in the brooder with a batch of newly-hatched youngsters will teach them to eat.

Always change feed gradually to allow chickens to discover it, as many a corn-fed chick would starve in a full wheat bin, not knowing it was good to eat.

Weed out the weaklings as fast as they appear in your flock. Put them in a separate brooder until you are sure they are incurable, and then eliminate them.

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BUFF AND WHITE ORPINGTON COCKERELS. Prices reasonable. Clarence Lehman, Newton, Kan.

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BUFF ORPINGTON EGGS, FIFTEEN, \$1.25; fifty, \$3.25. Clarence Lehman, Newton, Kan.

BUFF ORPINGTON EGGS, \$1.50 PER fifteen, from flock winning cup, best display Topeka State Show this year. Pen eggs. H. T. Farrar, Axtell, Kan.

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

PURE-BRED ROSE COMB BUFF ORPINGTONS, eggs, fifteen, \$1.50; thirty, \$2.50; hundred, \$5. Fannie Renzenberger, Greeley, Kan.

PURE-BRED SINGLE COMB BUFF ORPINGTONS; laying strain. Eggs, \$1 per fifteen, \$5 per hundred. Louis Mueller, Orlando, Okla.

FOR SALE—BIG AND BUFF TO THE hide, Single Comb Orpingtons. Eggs, \$5 per hundred, \$1.50 per setting. Mrs. N. J. Alvey, Meriden, Kan.

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ROSE COMB RED BABY CHICKS, EGGS. Order soon. Lily Robb, Neal, Kan.

FINE QUALITY BABY CHICK FEED, \$1.75 cwt. f. o. b. Ft. Scott, Kan. "Brooks Best" Alf Meal, \$3.25 cwt. Brooks Wholesale Co.

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FOR SALE—FINE MINORCA COCKEREL, three hens. M. Rathbun, Lucas, Kan.

S. C. BLACK MINORCAS—COCKERELS, \$2.50; eggs, \$1.50; \$6 hundred. J. M. Johnson, Bolivar, Mo.

(Poultry Ads Continued on Next Page.)

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CALIFORNIA FARMS FOR SALE—Terms. Write E. R. Waite, Shawnee, Okla.

ORZARKS OF MISSOURI, FARMS and timber lands, from \$5 to \$40 per acre. Write for list. Avery & Stephens, Mansfield, Mo.

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IMPROVED FARMS FOR SALE ON terms same as rent; low rate of interest. Netherow-Reid Realty Co., Eldorado Springs, Mo.

FENCED PASTURE WITH RUNNING water, Section 31, Alta Township, Harvey County, Kansas. Address Pelmella Cone, 1533 College Ave., Topeka, Kan.

640 ACRES IN HAMILTON COUNTY, Kansas, all in grass, and fourteen lots with two buildings in Wichita. What have you? Box 9, Lehigh, 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.

400 ACRES SOUTH PLATTE VALLEY, Northeast Colorado; some irrigated, good improvements, one mile town, on Union Pacific. Want farm in lower altitude or residence in college town. A. B. Lawson, Orchard, Colo.

HALF SECTION IMPROVED LAND TWO miles from county seat, two railroads, churches to fit most notions, and schools for a sizeable brain; good land, good roads, good shallow water, fields and pastures laid off for handy feeding. Six thousand dollars cash will swing this deal. Don't waste stamps with less. Easy time on balance. No trade. L. G. Conner, Canyon, Texas.

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FOR SALE—TWO REGISTERED PER- cheron stallions, three and four years old. Also grade coach, seven years old. Jersey bull from 600-pound cow or will trade for registered mares. G. H. Molby, Barnes, Kan.

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HOLSTEIN CALVES—CHOICE HIGH- grades, crated. Heifers, \$20.00; bulls, \$15.00. L. D. Arnold, Manhattan, Kan.

HIGH GRADE HOLSTEIN CALVES, either sex, \$15 crated. Cows, \$90 to \$100. Paul McFarland, Route 7, Watertown, Wis.

FOR SALE—HIGH-GRADE HOLSTEIN cows and heifers, all ages. R. N. Martin, Blue Mounds, Wis.

FOR SALE—HIGH-GRADE HOLSTEIN heifer calves, \$15 each, crated. Edward Yohn, Watertown, Wis.

FOR SALE—PURE-BRED GUERNSEY bulls, unregistered yearling bull, registered bull calf. Adams Farm, Gashland, Mo.

HIGH GRADE HOLSTEIN CALVES— Heifers, \$17; bulls, \$15; registered Holstein bull calves, \$35. Findlay Bros., Whitewater, Wis.

FOR SALE—ELEVEN-MONTHS-OLD pure-bred Guernsey bull. Sired by Bernice's Duke 24884, by Alpha's Duke 14491, herd bull at Kansas State Agricultural College, 1912. A. C. Larson, Galva, Kan.

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FIFTEEN OR TWENTY HIGH-GRADE Guernsey cows for sale. Guaranteed right and free from disease. Some with records. Also few heifers. Chas. Blott, Mukwonago, Wis.

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FERRETS, FERRETS, RABBITS, GUINEA Pigs, Toulouse Geese. (Jewell), Spencer, O.

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

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300 RUSSIAN OLIVE TREES, SIX TO ten feet. Farrar Nursery, Abilene, Kan.

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500 BUSHELS CHOICE PURE "COMMER- cial White" seed corn. High germination. Sacks free. E. D. King, Burlington, Kan.

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PURE WHITE BLOSSOM SWEET CLO- ver seed. Hulled, \$10 per bushel. J. W. Platt, Norwich, Kan.

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WHITE SWEET CLOVER, \$8.50. BEST stand sown now. John Lewis, Hamilton, Kan.

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TWO OR MORE CARS GOOD NORTH- ern Hereford cows and heifers, two to four years old, showing calf. E. C. Egnaw, Manderson, Wyo.

THE STRAY LIST

TAKEN UP—BY W. O. SMITH, OF Holington, Eureka Township, Barton County, Kansas, on January 28, 1916, one steer, color black, star in forehead, weight 750 pounds, appraised at \$25. C. F. Younkin, County Clerk.

TAKEN UP—BY CHARLES MOONEY, Hayes Township, McPherson County, Kansas, one horse about eight years, color bay with black points, white spot in forehead, roached mane, wire cut on left foreleg; appraised at \$100. W. E. Rostine, County Clerk.

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WANTED—STEADY EMPLOYMENT ON western cattle ranch by young man. Address Leo Wilson, Route 10, Winfield, Kan.

WANTED—WORK ON FARM BY SIN- gle young man, experienced in general farming. Can furnish best references. Address L. E. Boyce, 229 Fifth Ave., Homestead, Pa.

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PAYING 14c FAT HENS, TURKEYS 17c. We exchange various breeds. Loan coops free. Want good cockerels. The Copes, Topeka.

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STOCK, EGGS, BABY CHICKS, LEG- horns, Campines, Orpingtons, Langshans, R. I. Reds, Plymouth Rocks, Wyandottes. Stock, \$2 each; eggs, \$1.50 per 15, \$5 per 100; chicks, 15c each. Miller Poultry Farm, Box K, Lancaster, Mo.

EGGS OF YEAR OLD, GENTLE, BIG- boned, Narragansett turkeys, twelve, \$5. C. White Leghorns or Barred Rocks, 200, \$5.25; sixteen, 50c. Chicks, dozen, \$1. Twelve eggs of year-old White Embden Geese, \$2.50. Julia Robertson, Gilman City, Mo.

TRAPNESTED AND BRED TO LAY.— Big boned, dark, velvety Red Rose and Single Comb Rhode Island Reds and big Golden Buff Orpingtons. Finest strain, best blood lines. Sell eggs cheap. Ava Poultry Yards, Ava, Mo.

EGGS AND CHICKS FROM FARM- raised Single Comb White Leghorns, Barron and American strains; Single Comb White Orpingtons, Mammoth Pekin and White Runner Ducks, Embden Geese. Beaverdale, Appleton City, Mo.

I HAVE SIXTY BRONZE TURKEYS yet. Pullets, \$3 to \$5; young toms, \$5 to \$10. I won all firsts, Dalhart, Texas, '12 and '13, and Unionville, Mo., 1914. Eggs for hatching, \$6.00 per dozen. Have some fine Barred Rock cockerels and Black Langshans for sale. Write your wants. J. W. Anders, Route 8, Unionville, Mo.

FOR SALE—EGGS FROM PURE-BREDS. Turkeys; geese; Pekin, Rouen, Muscovy and Runner ducks; Pearl and White guineas; bantams; Houdans; Leghorns; Rhode Island Reds; Hamburgs; Games; Barred and White Plymouth Rocks; White and Silver Laced Wyandottes; Buff and White Orpingtons; Langshans. Hen eggs, 15 for \$1. Also hares, white rabbits, guinea pigs, fancy pigeons. Write wants. D. L. Bruen, Platte Center, Neb.

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

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

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RED POLLED CATTLE

A few choice young bulls for sale. Priced reasonably. T. A. Hawkins, Hill City, Kan.

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Choice breeding. Bred sows and gilts. Outstanding boars. Priced to sell quick.

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**Fitting Hogs For Show Ring**

By H. J. COTTLE

THE selection of the show herd is more than half the battle, therefore exercise the greatest possible care in picking out the various animals to be fitted. It is advisable to fit a full herd if possible. In such a herd the prospective buyer can see how individuals tend to develop, but in case one has not a creditable individual for a class, let that class remain unfilled rather than weaken the show herd with an inferior animal.

As much depends on breeding as on feeding. The breeder who fits a herd every year is continually studying the selection of the different classes as they are made at different times. Proper mating and complete herd records are of prime importance.

The exhibitor who is successful in selecting must be a good swine judge. Have you carefully noticed what points seem to first catch a judge's eye? I may be mistaken, but it always seemed to me he looks first straight at the feet and legs. It occurs to me that a hog with inferior feet and legs has to have an exceptionally good body to win over a hog with straight, nicely tapering, wide apart, well set legs, and having good feet. Be careful to select hogs with winning backs and model side lines. Consider action, style and disposition.

There is no stated time when the show herd should be selected. An under six months pig that was in the money last fall can very nearly always be counted as a good prospect for a junior yearling next year. A senior pig that won last season should make a good senior yearling next season, and so on. They must grow and properly develop, however, to be shown several years in succession.

Do not bunch the show herd with other hogs, for two reasons; the prize winner cannot then receive individual care, and the prospective buyer will always be selecting the prize winner, and will refuse to look at anything else in the pen.

About April 1 we begin to give special care to the prize winners of last season that we intend to refit. Pigs and aged hogs cannot be fitted together. The pigs will most certainly be imposed upon. Males cannot be fitted close to sows. The more nearly males are isolated the better the results.

When satisfied with the selections and when each animal is in his particular lot, a good beginning has been made. The lots have plentiful shade and pasture. Keeping the show herd cool is a most difficult task.

Preparing a swine exhibit demands steady work and patience, and one must expect many keen disappointments. The hogs may not develop properly, become lame or die. Last summer lightning put one of our most promising males out of the running.

The spring pig is a problem at farrowing time; the fall pig at weaning time. The exercise of common sense pays handsomely at the farrowing period. Every pig that is lost from a new born litter not only subtracts from the potential profits, but also adds to the initial cost of each of those remaining. Dead pigs pay no bills; neither develop into prize winners.

Little pigs must have sunlight and exercise. Scare them out of their beds for they enjoy scampering about. Let them get fat and lazy and the plumpest one in the litter is the first to die of the thumps. Thrifty, growing pigs will, at the end of three weeks, begin to try to eat shorts slop with the mother; then a separate pen or creep where the sow cannot reach their trough must be provided for them.

The troughs must not get sour from accumulated feeds, and they must be shallow. Young pigs climbing over the 6-inch side to get their feed from the trough and tumbling over each other are in danger of hernia.

Plenty of exercise in the open helps to make healthy and vigorous fall pigs. I feed a warm, rich slop through the winter at some distance from the sleeping quarters. This induces the pigs to roam about the yard, instead of rushing shivering back to the nest as is often the habit when the feed is given in a cold condition.

Little pigs require dry, clean, disinfected beds. If necessary, change the beds every day, and disinfect with a spray dip about once a week. If the weather is cold, use air slacked lime or Farmers' Dry Dip, otherwise beware of sore mouths, sore eyes, stub tails, mange, lice, etc.

The pure-bred hog man must follow a reliable system for marking each litter. I use a pig marker and notch the ears

during the first three or four days. We keep a complete herd record. This enables us to decide which are the best breeding hogs to be retained in the herd. One of our brood sows mated with a certain male never failed to produce two prize winning litters each year for three successive years; or until we sold her. She farrowed 12 pigs in the spring of 1912 and raised eight; four we sold as herd headers and four showed in nine entries that fall, winning nine premiums.

Pigs correctly cared for are ready to be weaned at from eight to ten weeks of age. They thrive better when separated into bunches of 15 or 20, and the feeder can more easily observe each individual. Crowd the pig in his growth at six months and he will tip the scales at 225 to 250 pounds or better.

Beginning April 1 I began feeding twice a day a rich slop mixed as follows: Bran, 100 pounds; shorts, 200 pounds; fine corn chop, 200 pounds, meat meal, 50 pounds. Occasionally I give a feed of corn, and keep good alfalfa before them continually. I also feed wood ashes, charcoal and salt. These are preventives of disease and promoters of health. Occasionally, I feed the government hog tonic. This is an excellent conditioner, and keeps the hog free from his greatest enemy, worms.

We are reading considerable about the self feeder at present, but I doubt if it would be practical in fitting a show herd, especially sows farrowing in the fall.

I take great pride in knowing my herd boars and brood sows by name and characteristics. A hog cannot miss a meal without arousing my curiosity. Infinite care and responsibility rests on the man who carries the slop pail, and it is a job I never trust to a hired man. Many a good individual has been ruined because of carelessness or ignorance in its care and feeding.

Appetite is a most important consideration. Sometimes it is necessary to apply the "cream" of remedies, new milk. I almost despaired last summer while fitting the senior yearling boar that won first at Topeka, also heading the first prize aged herd. I finally brought him through on fine corn chop mixed with new milk. The successful showman dares not hesitate at expenditure of time, strength, or money.

When the weather gets hot I close the shed doors and force the hogs to go to the timber. There is no shade that surpasses that of big trees. They soon learn to start for the timber early in the morning and they do not come up for feed in the evening until it is cool. This walk of two hundred years affords them plenty of exercise. During a dry, hot, summer, such as we often have in Kansas, do not figure on fishing trips, baseball games, etc., if you intend doing the square thing by your show herd.

I often administer the lessons in driving by moonlight. Have each individual gentle enough to drive with a whip or cane. They always exhibit to a better advantage. Watch their feet. Proper trimming at the right time amounts to the same thing as taking out an insurance policy on certain ribbons. Spray often to keep the skin and hair in good condition.

People remark at the fair frequently that it must be a job to keep the hogs so nice and clean. I hasten to assure you if it were necessary to keep them in show shape constantly I would give up in despair. However, hogs are not as filthy as many seem to think.

I am often asked, "Does it pay to fit and show a herd of hogs?" From a financial standpoint, considering premium money only, it does not, but the state fair is the mirror that raises the standards of breeds and prices. No successful prize winning breeder who meets the requirements of a great fair and keeps a large herd of the best blood lines can afford to undersell competitors.

I consider a winning herd an exceptionally good advertisement, and the state fair is the place to get it before the public. There also breeders and exhibitors get personally acquainted and talk over their many problems together.

Newly weaned pigs are often overfed. They seem to have an unsatiable appetite, and discretion should be used in satisfying their hunger. The reason for their seeming enormous appetite is not because they consume a large amount of feed, but because they are accustomed to getting food many times a day from their mother. The secret in keeping pigs thrifty and growing is to feed a little several times a day.

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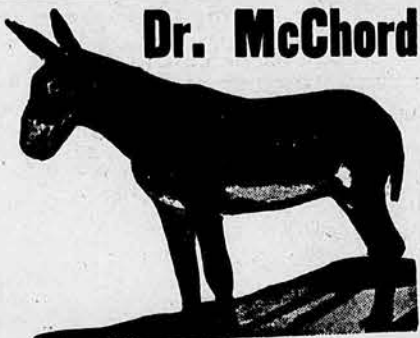
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FIVE HOLSTEIN HEIFERS—One 3 years old, giving milk, 3/4 bred; two head 2 years old, highly bred and
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40 HEAD — CLOVER LEAF VALLEY FARM JACKS AND JENNETS — 40 HEAD

WILL BE SOLD IN MY ANNUAL AUCTION AT LA PLATA, MISSOURI, MONDAY, MARCH 20, 1916

Twenty Jacks, two to six years old, fifteen to sixteen hands high. Twenty Jennets, ten with foals. An offering selected to make good for those who buy them. Every Jack is black with white points and broke. My Jennets are three to six years old. The foals at foot are mostly by my Herd Jack, Yucatan 1556. Catalogs now ready.

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Choice Fall Yearlings and Spring Gilts. Yearlings by Longfellow Again, bred to Chief Big Bone. Spring gilts by Chief Big Bone, bred to Longfellow Again. Priced for quick sale.

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LANGFORD'S SPOTTED POLANDS.
Choice fall boars. Also boars for service. Must sell.

T. T. Langford & Sons, Jamesport, Mo.

OLD ORIGINAL SPOTTED POLANDS.
Booking orders for spring pigs.

A. S. ALEXANDER, R. 2, Burlington, Kansas

GALLOWAY CATTLE.

GALLOWAY BULLS

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

E. E. FRIZELL, Frizell, Pawnee Co., Kan.

SHROPSHIRE SHEEP

SHROPSHIRE EWES

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

L. M. HARTLEY
PINE RIDGE FARM - SALEM, IOWA

We Know How to Make Engravings

That is Our Business. Let us make your cuts for sale catalogs, sale bills, letter heads, and cards. Send your order Write for information.

TOPEKA Engraving Company
ARTISTS AND ENGRAVERS
SIX TWENTY FIVE JACKSON STREET Topeka, Kans.

FARM AND HERD

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

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CLAIM SALE DATES.

Jacks and Jennets.

March 15—Bradley Bros., Warrensburg, Mo.

March 20—G. C. Roan, LaPlata, Mo.

Shorthorns.

March 31—Consignment sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Mgr.

April 5 and 6, 1916—Central Shorthorn Sale, Independence, Mo.

April 18—Robert Russell, Muscotah, Kan.

Holsteins.

April 25—J. R. Smith, Newton, Kan.

Jersey Cattle.

May 20—Robt. I. Young, Route 5, St. Joseph, Missouri.

The Kansas Hereford breeders' sale held at Manhattan on March 3 was well attended. Fifty-six head of Herefords sold for an average of \$235.37 per head. All but twelve head were taken by Kansas buyers. Twenty-two bulls sold for an average of \$255.51. Thirty-three cows and heifers sold for an average of \$221.06. The top price for bulls was \$525; for females, \$550.

Catalogs are out for the Percheron stallion sale to be held by L. K. Haselmeier & Sons, Springfield, Mo. The sale will be held at Fort Scott, Kan., March 18. Ten head of choice registered Percherons have been catalogued for this sale. They range in age from two to four years and will mature to 1,800 and 2,000-pound horses.

Frank Iams, of St. Paul, Neb., one of the leading importers of Percheron and Belgian horses, reports a good demand for strictly high class stallions. Last week Mr. Iams sold three very fine stallions to come to Kansas. The stallions and mares now in the Iams barns at St. Paul are a very select lot of imported and home-bred horses.

At the annual business meeting of the Northwest Missouri Hereford Breeders' Association held at St. Joseph, Mo., officers were re-elected as follows: Jesse Engle, Sheridan, president, and H. D. Cornish, Osborn, secretary-treasurer. Reports showed a gratifying gain in membership during the year, the organization comprising nearly 100 prominent Hereford breeders.

St. Maw's Beauty 295047, the Jersey heifer which was awarded first place in the two-year-old heifer class at the Panama-Pacific International Exposition, has completed a year's authenticated record of 10,239 pounds of milk, 586.8 pounds of fat. This record was started at one year and eleven months of age, and during the tenth month of the test she was shipped from Oregon to San Francisco to the live stock show at the exposition. Her record of 690.4 pounds of 88 per cent butter places her third in Class I (cows under two years), and gives her the distinction of being the highest yearling producer of fat in the state of Oregon.

J. C. Robinson, Towanda, Kan., reports his herds of Percheron horses and Holstein cattle doing well. The Percheron and Holstein herds on Mr. Robinson's Whitewater Falls Stock Farm are among the leading herds of the state. At this time Mr. Robinson has a large number of very fine Holstein cows and heifers in his herd. They are good individuals, well marked, and are the best milking strains of the breed.

Catalogs are out for the Shorthorn breeders' sale to be held at South Omaha, Neb., on March 31, under the management of H. C. McKelvie, Lincoln, Neb. The cattle listed for this sale are a good lot and are the kind that will make good for any farmer or breeder. There will be forty head of bulls, including choice Scotch bulls of herd-heading merit. Seven good double standard Polled Durham bulls are listed. His Highness, Gladstone by Imp. Whitehall Sultan, Cumberland's Pride by Cumberland's Last, Imp. Scottish Sentinel, Choice Knight by Choice Goods, Good Knight by Good Choice, Dauntless Chief by Orange Chief, Lord Violet, King Fragrant, Sultan Missie 2d, Diamond Marr and Dale Emblem by Double Dale, are some of the Scotch bulls that are represented.

E. M. Wayde, of Burlington, Kan., held a very satisfactory Poland China sale on Tuesday, February 29. Thirty-eight head of mostly gilts and bred sows sold for an average of \$35.75, with a top sale of \$60. It was one of the real snappy sales of the season. Nothing sold high, but every purchaser bought at prices where they should receive profitable returns on their investment, and the total returns received for the sale were very satisfactory to Mr. Wayde.

We have just received the private sale catalog of Frank Iams, St. Paul, Neb., the well known breeder of registered horses. This 1916 stud catalog is the nearest of the kind received this season. The catalog contains a list of forty head of choice Percheron and Belgian stallions and mares. Many of the best Percheron and Belgian stallions now in service in this country are from Mr. Iams' barns at St. Paul, and were selected and imported by him. This year he has also catalogued a choice lot of home-bred stallions.

HOLSTEIN CATTLE.

CLYDE GIROD—At the Farm.

HOLSTEIN FRESIAN FARM

PURE-BRED AND HIGH-GRADE HOLSTEINS, ALL AGES. We offer a number of grand young bulls, serviceable age, all registered, from A. R. O. dams and sires. Choice pure-bred heifers, some with official records under three years of age. Two hundred excellent, high-grade, heavy springing cows and heifers, well marked, in calf to pure-bred bulls, to freshen before April 1. Fresh cows on hand, heavy milkers. Heavy calves six to ten weeks old, \$25. Bargains. Send draft for number wanted and we will express to you. Wire, write, or phone us. We can please you.

GIROD & ROBISON, Towanda, Kansas

HOLSTEIN CATTLE.

F. W. ROBISON—At Towanda State Bank.

HOLSTEIN COWS and HEIFERS

I have for sale a nice collection of HOLSTEIN cows and heifers; also a few registered bulls to go with them. All big ones, nicely marked, and out of the best milking strains. If you want cows or heifers, I can supply you, and that at the right kind of prices.

J. C. ROBINSON

Towanda, Kansas

TWO REGISTERED HOLSTEIN BULLS READY FOR SERVICE.
DAMS HAVE A. R. O. RECORDS OF 21 POUNDS AND 23.91 POUNDS BUTTER IN SEVEN DAYS.
No. 1—Sir DeKol Luth Pauline 169977, born December 10, 1914. Sire, Tebes Luth Pauline DeKol, who is also the sire of Luth Piebe DeKol with A. R. O. record of 29,599 pounds milk and 320 pounds fat in 365 days and 28.82 pounds butter in seven days. Dam, Clothilde Peep Pride, with 21 pounds butter record in seven days. This cow is in our herd and promises to increase her record. This bull has a full sister in our herd that has just made 25.87 pounds butter from 507.7 pounds milk as a junior 3-year-old. He is well marked, being about two-thirds black, and a good individual.
No. 2—Felix Canary Homestead 169478, born February 5, 1915. Sire, Canary Fobes Beale Homestead, whose dam has A. R. O. record of 31.14 pounds butter in seven days. Dam, Johanna Clothilde 3d Canary, butter in seven days 23.91 pounds; A. R. O. dams and sire's dam average 27.57 pounds butter in seven days. This cow is also in our herd. He is two-thirds white and a good individual.
We also offer two bull calves with splendid breeding, having A. R. O. dams. Write for pedigrees and prices. Satisfaction guaranteed.
WM. A. HOOVER, GOSHEN, INDIANA.

A THIRTY DAY HOLSTEIN SALE

Consisting of the following:

Fifty fully developed high grade Holstein cows, to freshen in the next three weeks.

Eighty high grade heifers, two and three years old, all springing.

Thirty registered cows and heifers, all bred to Johanna King Segis, the 40-lb. \$5,000 bull. Don't wait to write, but wire me at my expense when you will be here. They are priced to sell.

NEAL HOUSLET, OXFORD, WISCONSIN.
C. & N. W. Railroad.

Regier's Holsteins

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

G. REGIER & SONS, WHITEWATER, KAN.

IN MISSOURI

Eight bulls, 2 to 8 months, \$190 to \$175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

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

SUNFLOWER HERD

Prince Artie Pontiac Abbecker No. 136382 Herd Sunflower Herd. Only 30-pound bull in Kansas. Buy where the best breeding, best producers come from.

F. J. SEABLE, OSKALOOSA, KANSAS.

(Several bulls ready for service.)

BUTTER BRED HOLSTEINS

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

J. P. MAST - SCRANTON, KANSAS

REGISTERED HOLSTEINS

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

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

Golden Belt Holstein Herd

Canary Butter Boy King No. 70508 In Service.

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

W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES, both sexes, fifteen-sixteens pure, \$20 each, crated. Also carload heifers 1 and 2 years old. Write us for Holsteins. Edgewood Farm, Whitewater, Wis.

REGISTERED HOLSTEIN BULL

Registered three-year-old Holstein bull from a ten-gallon dam. He is a guaranteed bull and will be sold at a bargain.

C. MCCOY, BEATTIE, KANSAS.

CORYDALE FARM HERD

Jewel Bull Butter Boy No. 94245 One of the best bred bulls in the state. We offer three bulls ready for service out of good producing dams.

L. F. CORY & SON, Belleville, Kansas.

23- HOLSTEIN-FRIESIAN BULLS -23

Best of sires. A. R. O. dams, fourteen over 20 pounds. Seven of the others from heifers with records of 14.89 to 19.2 pounds. The kind you want. We have only two cows in the herd with mature records less than 20 pounds.

Breeders for Thirty Years.

McKAY BROS., Waterloo, Iowa

CHOICE HOLSTEIN BULLS

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

BEN SCHNEIDER, NORTONVILLE, KAN.

HOME FARM HOLSTEINS

OFFER HEIFER CALVES

Five months up to 15 months; grand-daughters of De Kol Burke, Fobes Tritonia Mutual De Kol and Walker Korn-dyke Segis. Official record and untested dams. Prices, \$85 to \$125.

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

Albechar Holstein Farm

Offers young bulls, bred cows and heifers for sale. Write for breeding, description and prices. Our herd absolutely from tuberculosis. Satisfaction guaranteed.

ROBINSON & SHULTZ, Independence, Kan.

REGISTERED HOLSTEIN-FRIESIAN BULLS

I have two excellent bulls ready for service, sired by Canary Butter Boy King 70508, from A. R. O. dams with 20 and 22-pound butter records as three-year-olds. Write for prices and description to

HARRY W. MOLLHAGEN, Bushton, Kan.

CEDARLANE HERD HOLSTEIN-FRIESIANS

T. M. Ewing, Prop., Independence, Kan.

Herd headed by a grandson of Pontiac Korndyke. The average record of his dam and sire's dam, 7 days, 29.4 pounds butter; 80 days, 117.3 pounds.

Several bull calves for sale sired by the above bull and from cows that produce as much as 80 pounds milk per day.

Better buy now while you can get choice.

BRAEBURN HOLSTEINS

Do you want a yearling bull, first cousin to the sire of Duchess Skylark Ormsby, year's butter 1,506 pounds, at \$125?

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

FOR QUICK SALE

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

HIGGINBOTHAM BROS., Rossville, Kansas

Was at the Holstein Breeders' Meeting at Herington, Kansas, and hope for the success of this organization.

TREDICO FARM

Route 44 - KINGMAN, KANSAS

REGISTERED HOLSTEIN BULL CALVES
My herd bull grandson Old King Segis, fine animal. E. VIOLETT, Altoona, Kansas.

Holsteins for Sale High bred registered bulls ready for service
N. S. AMSPACKER, JAMESTOWN, KANS.

HOLSTEIN BULLS, "REGISTERED"
Two ready for service. Smith & Hughes, Breeders, Route 2, Topeka, Kansas.

Breeders' Directory

PERCHERON HORSES.

M. E. Glendon, Emmett, Kan.

ANGUS CATTLE.

Geo. McAdam, Holton, Kan.

SHORTHORNS.

E. E. Hancock & Sons, Hartford, Kan.

C. H. White, Burlington, Kan.

HOLSTEINS.

C. E. Bean, Garnett, Kansas.

DORSET-HORN SHEEP.

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

JERSEY CATTLE.

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

Ask your dealers for brands of goods advertised in KANSAS FARMER.

FARM AND HERD.

Mahlon Groenmiller, of Pomona, Kan., owner of the noted Coburn herd of Red Polled cattle, also one of the good herds of Percherons in this state, writes that his stock is doing fine and that there is a heavy demand for Red Polled breeding stock, also for good Percheron stallions. The coming three-year-old stallions now in his herd are the best lot ever raised on the farm. There are a number in the lot that will weigh a ton each.

The fine young bull advertised by Braeburn Holstein Farm was sold last week to C. B. Vandever, Ashland, Kan. He is one of the best calves sent out from this herd for some time, and is sure to attract attention in the short-grass country.

Prof. C. H. Eckles of the Missouri Agricultural College makes this statement in a bulletin issued on the advantages of selling cream: "Selling cream means less work for the women than making butter. Any system that will lighten the duties of the women on the farm without decreasing the income should certainly be adopted. When cream is sold all that is necessary is to see that the cream is cooled after being separated and to take it along to town twice a week in winter and three times in summer."

M. E. Moore & Co., owners of one of Missouri's oldest and best herds of Holsteins, report their herd doing well. They also report a good demand for high class Holsteins at very satisfactory prices, and have made a number of good sales the past few weeks. They have been holding all female stock for some time, but have now decided to reduce the herd.

William A. Hoover, of Goshen, Ind., who owns one of the good herds of Holstein cattle in that state, writes that his herd is doing fine. Mr. Hoover has one of the heavy producing herds. At this time he has a very fine lot of young stock, including a number of bulls from A. R. O. dams backed by seven-day butter records of from 23.91 to 31.14 pounds.

Saunders & Baggard, who recently shipped a load of fine jacks from Kentucky to Newton, Kan., report a good demand for high class jacks. This firm has been shipping jacks to Kansas for the past fifteen years, and many of the jacks now in service in this state are from their herd.

BLUE MOUND, KANSAS, FEBRUARY 24, 1916.

KANSAS FARMER, Topeka, Kansas.

Gentlemen: I wish to let you know that I sold all my Black Langshans by the 7th of February, through my ad in KANSAS FARMER. Orders began coming in from the start. Had to return several money orders. Am sending ad for eggs.

MRS. D. A. SWANK.

D. A. Cramer, of Washington, Kan., one of the progressive Jersey breeders of this state, writes that his herd is doing fine. Mr. Cramer owns one of the richly bred heavy producing herds. The young stock in his herd is a choice lot, including an outstanding fourteen-month-old bull out of a Flying Fox St. Lambert dam. This youngster is a prospective herd header.

Harris Bros., Great Bend, Kan., are making a great success with their Percherons. They have sold a number of high class stallions this spring, and have on hand a number of extra good mares showing safe in foal, and a lot of young stallions that are just turning three years old. These young horses have been broken to work and handled in a way that will make them profitable on any farm.

H. H. Holmes, Great Bend, Kan., who is one of the successful Shorthorn breeders and showmen, reports his herd doing fine. Mr. Holmes has one of the good herds in Kansas, and has shown at the Kansas State Fair and Oklahoma for several years, always winning a large part of the premiums. His herd is among the best, both as to breeding and individuality. At this time he has sixty-five head in his herd, including a fine lot of Scotch and Scotch-topped youngsters.

W. H. Richards, of Emporia, Kan., has just returned from Illinois with a carload of Percheron stallions. They are large heavy-boned coming three-year-olds, and just right for heavy service. Dr. Richards has been importing from France and Belgium for a number of years, and also has a few extra good imported stallions on hand that will weigh a ton or more.

F. C. Gookin, of Russell, Kan., owner of one of the good herds of O. I. C. hogs in this state, writes that his herd is in fine condition. Mr. Gookin has succeeded in developing a type of O. I. C.'s that is proving very profitable as a feeder. His type has the size and quality; they mature early at a good weight, and they have been money-makers on his farm. A feature of his herd at this time is the fine lot of August and September pigs. They are by some of the best sows of the breed and out of the great sows of his herd. He has bred a large number of sows for early farrow and is preparing to handle a large number of spring pigs. He keeps his herd immune at all times, and as a result has no trouble on account of disease.

Good results have been obtained in experiments conducted at the Illinois Agricultural College in feeding cottonseed meal to milk cows. This meal was used instead of corn, and fed with other rations, with most satisfactory results. Cows fed in this way not only held up in flesh, but made a good showing in milk production. The cottonseed meal proved a little less expensive than ground corn.

Edward F. Swinney, president of the First National Bank of Kansas City, has purchased the stock farm formerly owned by the late J. M. Currence, the noted Hereford breeder of Independence, Mo. He also purchased the famous Currier herd of Herefords, which is probably the most valuable herd of that breed of cattle ever sold in this territory. The herd is small but select. There are seventy-six head on the farm now, including thirty-seven cows of breeding age; twenty-seven calves; eight yearling heifers, and four noted bulls. The blood lines represented are those which have been most potent in building the Herefords in this territory. The herd was established twenty years ago with the purchase of a half dozen small lots, from which the choicest of each were retained. Hesiod 2d, a son of the Funkhouser bull, Hesiod 2d, was among the first great bulls used. His daughters were mated with Beau Champion 129532 and Beau Perfect 129533, both sons of Beau Brummel. A few daughters of Beau Champion remained in the herd,

while very few of the daughters of Beau Perfect were sold until they had reached considerable age. A son of Beau Perfect followed these two bulls assisted by Beau Donald 75th. In the last five years a son of Prince Rupert 8th has been the chief stock bull. The young stock in the Currier show herds of the last two or three years were his sons and daughters. A three-year-old son of the International champion, Point Comfort 14th, and a son of Perfect Fairfax of the same age, are in the herd now.

A bulletin issued by the Nebraska Agricultural College says: "Cows calving in the fall produce not only a larger part of the butter fat when it is most valuable but they produce one-tenth more butter fat than when calving at other times during the year. In addition, cows which freshen in the early winter and are well cared for during the winter period go on pasture at the time when they would naturally be drying up, and this lengthens the milking period and increases the annual yield of butter. The climate is also more favorable in winter where good shelter is available."

According to a bulletin issued by the Ohio Agricultural College, pigeons are often responsible for the spread of hog cholera. "The farmer who owns or harbors pigeons," says the bulletin, "should either confine them at home or dispose of them. Pigeons fly from farm to farm in search of food which they generally find in the feed yards. In flying long distances and visiting many yards they easily get the germs on their feet and infect a whole neighborhood before people realize that cholera is in their herds. In 1915 the loss from hog cholera in the United States was estimated at \$750,000,000, and if one-fifth of this can be attributed to pigeons, they have to go."

The live stock breeder who builds up a mailing list is always in position to get in touch with prospective purchasers, and a large per cent of the value of advertising is lost to the breeder who neglects to build up one.

M. G. Bigham & Sons, of Ozawie, Kan., breeders of Percheron horses, jacks and jennets, Holstein cattle and Duroc hogs, report their herds doing splendidly. They also report a good demand for pure-bred stock. Their herds are among the best in the country.

E. E. Frizell & Son, of Larned, Kan., have one of the good herds of Red Polled cattle in the state. They write that their herd is doing fine and that they have had a splendid demand for both bulls and females at very satisfactory prices. Frizell & Son have one of the largest herds of Red Polled cattle in the state, and at this time have on hand a lot of very high class young stock.

The Deering Stock Farms, near Queen City, Mo., have for many years been famous as the home of one of Missouri's greatest herds of mammoth jacks and jennets, and breeding stock from this famous herd can be found in almost every state. In addition to the jacks and jennets, the Deering Farms are noted for high class Percheron, Coach, Saddle and Standard-bred stallions. William Deering, the owner of the farms, is one of Missouri's leading horsemen. The shipments of horses and mules from the Deering Farms and barns in Queen City each year are immense. The farms are among the best equipped in the state. The large modern barns, exercise and feed yards in town, are models of convenience, and to anyone interested in high class jacks or stallions a visit to the farms or barns is well worth the trouble and expense. The jacks and stallions in the barns at this time are one of the best lots in the history of the farm.

Kansas Farmers' Breeders' Directory is not only a cheap but a good method of keeping before the public throughout the entire year. By using the directory all the time, and space in the breed columns when there is a surplus to sell, many breeders have received the best of results. Write us for rates for the Breeders' Directory.

W. S. Gearhart, state highway engineer, has returned from Chicago, where he was elected president of the Association of State Highway Officials. Mr. Gearhart attended also the concrete road conference, the concrete institute, and the cement show. He spoke before the highway meeting on "Patents Affecting Bridge Construction" and before the road conference on "Proportions of Material and Consistency of Concrete for Road Work."

A. M. Dull & Sons, the well known Percheron breeders of Washington, Kan., report the sale of their great herd stallion, Siroco 51358, to W. E. Chilcoat, of Stanton, Neb. Mr. Chilcoat spent considerable time and money to find a desirable type of stallion to mate with his herd of registered mares, and is to be considered very fortunate in securing this great stallion, even at a good figure. Dull & Sons are keeping a number of his fillies that are outstanding in every way. The young stallions in their herd by Siroco are the ideal type and show the breeding qualities of the sire.

One of the very successful Hereford sales of the season was held by the Northwest Missouri Hereford Breeders' Association at South St. Joseph, March 4. Forty-five bulls sold for an average of \$287.66; twenty-five females averaged \$215.80; the average on the seventy-four head sold being \$260.81. The top price of the sale was \$1,500, which was paid by J. A. Sisk, of Grant City, Mo., for the January yearling bull, Beau Gomez Model, a son of Beau Gomez, sold by H. D. Cornish of Osborne, Mo. The second highest price was \$900, paid by Jesse Engle & Sons, of Sheridan, Mo., for the March yearling, Beau Princeps, another son of Beau Gomez. Several females sold around \$400. The top female was the imported cow, Laura, with a heifer calf, which sold to W. B. Rankin, Tarkio, Mo., for \$440. Missouri, Iowa, Kansas, Colorado and Nebraska buyers took the offering.

Sows that are bred too young, or are too fat, frequently have trouble in farrowing, and lose some or all of their pigs.

FRANK IAMS'

"Mr. Horseman," 1916 is the "Get Rich Quick" year for "up-to-snuff" Horse Breeders. Get into the "Easy Money-Making Game." Don't wait. Do it in 1916. No horses will be imported in ten years. "Big Horse Family" 500 horses exported Buyer, buy big "Black of Iams and wear diamonds. "Iams' kind" are known "world over" as Top-Notchers at Bargain Prices. Try IAMS.

Big, Nifty, Classy "New Horses" are "Town Talk." His 34 years of success in Importing, Breeding and Selling, 5,640 registered horses—his "50 trips" across the ocean—make Iams a safe man to buy stallions from. His "old customers" are "best Page advertisers," his Breeding Guarantee backed by "Half Million Dollars." Iams' Imported and Home-bred horses are "classy, model big drafters" of large bone, fine form, quality, finish and flash movers. Several European

"Gold Medal and State Prizewinners"

"Iams' kind," and in the "Pink of Condition."

Bought at "bargain prices" and must be sold. "Iams sells horses on honor." A lady can buy as cheap as a man. Iams is not in the "stallion trust," and is selling more pounds of "model draft horse" for the money than any competitor. Iams is cutting the middle out of high prices on his

40 PERCHERON AND BELGIAN STALLIONS AND MARES

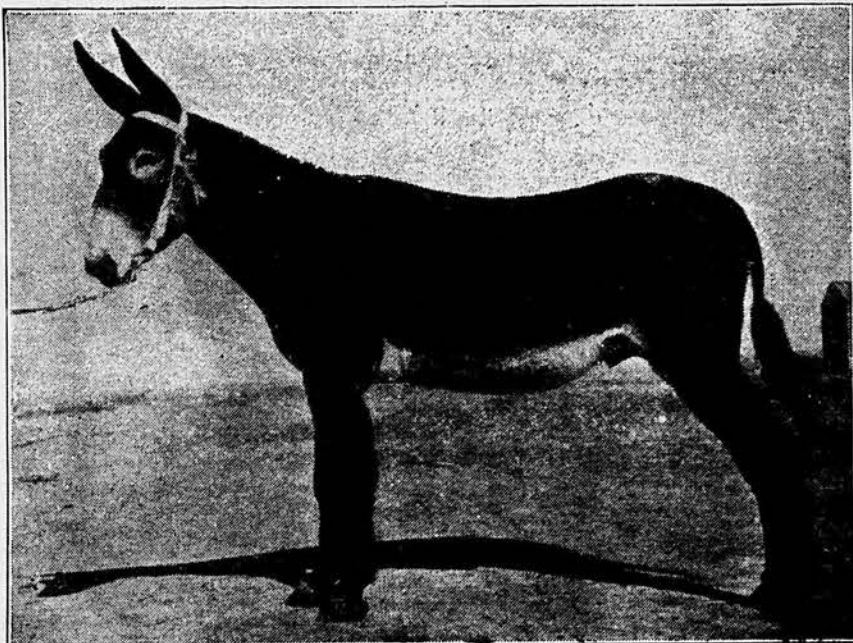
2 to 6 years old, weight 1,700 to 2,410 lbs., all "Branded," "Approved," "Registered and Inspected" by governments of France and U. S. and certificates "stamped" O. K. All "inspected" by a Nebr. Deputy State Veterinarian and certificates of "Health and Soundness" are given with each horse. Iams sells

IMPORTED STALLIONS AT \$1,000 AND \$1,400

(few higher). "Home-Breds" come cheapest. Registered 1,800 to 2,100-lb. mares at \$700 to \$1,000. Terms cash, or one year's time at 7 per cent; land security at 6 per cent; \$100 less price for cash than time. Iams pays freight and buyer's fare; gives 60 per cent breeding guarantee. Can place \$1,500 insurance. Iams backs up his ads. with a \$500 guarantee that you find the horses as represented. Write for Horse Catalog. It has a "Big Bargain" on each page. References: First National and Omaha National Banks, Omaha, Neb.; Citizens' State and St. Paul Banks, St. Paul, Neb.

ST. PAUL, NEB.

KENTUCKY JACKS AT PRIVATE SALE



THE firm of Saunders & Maggard, Poplar Plains, Ky., has shipped twenty head of jacks to Newton, Kansas, and they will be for sale privately at Welsh's Transfer Barn. This is a well bred load of jacks, including one imported jack, and they range in age from coming three to matured aged jacks; height from 14 to 16 hands. We will make prices reasonable, as we want to close them out in the next thirty days. Anyone wanting a good jack will do well to call and see them. Barn two blocks from Santa Fe Depot, one block from Interurban. Come and see us.

SAUNDERS & MAGGARD, Newton, Kan.

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

\$30.00 DAN PATCH GOLD STOP WATCH



**YOU WILL
BE
DELIGHTED
WITH MY
\$30.00
DAN PATCH
GOLD STOP WATCH
AND
YOU MAY HAVE ONE
ABSOLUTELY
FREE.**

TWO GOLD WATCHES IN ONE CASE.

You Need This Dan Patch Gold Stop Watch. Latest Thin Model Design, Highest Quality of Works and Beautiful, CROWN 20 Year, Gold Med CASE. You will be Delighted to carry it all your life. Two Watches in One Case. A Regular Watch, Combined with a Stop Watch. Both Work Independently. Instantly ready for timing Automobiles, Trains, Boat Races, Football, Horse Races, Machinery, Etc. The Newest and Most Classy thing in Watches. You need this watch in these days of Progress. \$10,000 in New Machinery required to make this watch. Sold by Dealers for \$30.00 in Guaranteed CROWN Gold Filled Case. Your Jeweler can tell you of its High Qualities.

MY DAN PATCH GOLD STOP WATCH,—IS THE ONLY SUCCESSFUL, HIGH GRADE, GOLD STOP WATCH EVER MADE IN AMERICA.

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M. W. SAVAGE,
MINNEAPOLIS, MINN.
Sole Owner of the
\$30 DAN PATCH GOLD STOP WATCH



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