

KANSAS FARMER

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CATTLE FEEDING EXPERIMENTS

Experiment Station Trying to Answer Questions Most Often Asked

Forty head of two-year-old steers are now on full feed in the feed lots of the Kansas Experiment Station at Manhattan. These steers were purchased on the Kansas market last January by Dr. C. W. Campbell, head of the animal husbandry work at the experiment station. The steers are high grade Herefords from some of the widely known ranches of Texas. They cost \$14.60 a hundred and averaged 953 pounds in weight when the test started. They have now been on the feed lots over two months.

The expression "on full feed" formerly meant with it the understanding that the cattle were receiving all the corn and other concentrated feeds they would consume. Roughage was supplied, but considered only as a filling necessary cause cattle, being ruminants, must have a certain bulk to their rations. In recent years, however, there has been a decided change in the estimate placed on rough feed in finishing cattle for market. It is being recognized that alfalfa, silage and other roughages are beef-producing feeds, and many cattlemen are endeavoring to put a certain amount of expensive grain.

Professor McCampbell says no other question is being asked more frequently than that of how to reduce the cost of finishing cattle for market. The experiment station is looked to for the answers to many such questions which cannot be answered by the individual farmer. It has been the policy of the experiment station men to conduct the experiments on the basis of what the farmers of the state want to know, and as far as possible to anticipate the questions likely to be asked and have the answers ready when the information is most needed. It is impossible to plan and conduct experiments that will answer all the questions asked. That can be done is to center on the questions about which the largest number of asking questions.

Men who have been finishing cattle for market are almost to a man ready to agree that there must be a reduction in the cost of putting on the necessary finish. We have been using too much expensive grain and not making enough use of the cheaper rough feeds.

Value of Alfalfa and Silage
The feeding test of the two-year-old steers referred to was planned for the purpose of getting some definite information on the extent to which the cheaper feeds could be used in finishing cattle for market. It is hoped that the experiment will show the maximum utilization of alfalfa and silage in finishing cattle for market. The steers in this test were divided into four lots of each and are being fed as follows: Lot 1—Full feed of corn, full feed of alfalfa hay, and three pounds of linseed meal to each steer daily; Lot 2—Full feed of corn, all the alfalfa they will eat and in addition all the silage they will eat and three pounds of linseed meal daily; Lot 3 is receiving only a full feed of corn, this being based on the amount the other two lots are consuming. They receive all the silage and all the alfalfa hay they will eat and three pounds of linseed meal daily. Lot 4 receives no corn. They are being fed all the alfalfa hay they will

eat and all the silage they will consume. The only concentrate is a daily feed of three pounds of linseed meal to each steer. This test will continue 110 days, this period ending just in advance of the annual cattle feeders' convention, which will be held at Manhattan May 13. At that meeting the results will be announced and those in attendance can see the cattle in the feed lots and draw their own conclusions based on their appearance.

Steers Making Large Gains

It is interesting to note the results as the experiment goes on. At the end of the sixty-day period the steers in Lot 1 showed an average gain of 3.48 pounds daily. The daily gain in Lot 2 was 3.61 pounds per steer; in Lot 3, 2.92 pounds, and in Lot 4, 3.58 pounds. The gains have been highly satisfactory in all the lots, and particularly so for Lot 4, in view of the fact that no corn has been fed to the steers in this lot, the only concentrate being the three pounds daily of cottonseed meal to each steer. There was absolutely no grain in the silage fed. The cost of each hundred pounds of gain in the different lots was as follows: Lot 1, \$18.13; Lot 2, \$17.18; Lot 3, \$16.30; Lot 4, \$9.74. The contrast in the cost of gains in Lot 1 and Lot 4 is most striking, Lot 1 having cost almost twice as much as Lot 4.

The question as to the market value of the steers under experiment at the end of the sixty-day period might have been raised, and in order to have a line on this point Doctor McCampbell called in some Kansas City buyers and asked them to put a price on the cattle in each lot on the basis of the market on that particular day. The bids of these buyers, who did not know how the cattle in the different lots had been fed, were as follows: Lot 1, \$15.35 a hundred; Lot 2 and Lot 3, \$15.50 a hundred, and Lot 4, \$15. These prices would indicate that the steers in Lot 4 did not show quite as much finish or would not dress as high a percentage in the judgment of the buyers.

Silage from Immature Crops

Another question constantly being raised is that concerning the value of a silage crop which has been prevented from maturing grain, and also the relative value of corn and cane, or sweet sorghum, as silage crops. A number of comparisons have already been made at the station between corn and cane silage, and a feeding test is now under way making a direct comparison between

silage made from these two crops as compared with the experiment station farm last summer under very adverse conditions, neither crop maturing any grain. In noting the results of this test, the relative yield of the two crops must not be overlooked. The yield of corn silage was only three and a half tons to the acre, while the cane yielded nine tons of silage to the acre. Two lots of calves are being fed in this test, the complete results of which will be reported at the cattle feeders' meeting May 13.

The calves in this test of corn and cane silage are being fed as follows: Lot 1, a full feed of corn and all the alfalfa hay and corn silage they will eat and two pounds daily of linseed meal to each animal. Lot 2 is fed the same with the exception that the silage is cane instead of corn. No preliminary figures are now available on this test.

Buttermilk for Hogs

Every cattleman is interested in hogs to a greater or less extent, and we would mention the tests with hogs which are either under way or planned for the coming season. With the increase of dairying in the state there will come a wider use of commercial buttermilk from the creameries. A test is being made to establish the value of this buttermilk as a protein supplement in fattening hogs for market. Eight lots are included, the rations being as follows: Lot 1, corn and tankage; Lot 2, corn, tankage and buttermilk; Lot 3, corn, shorts and tankage; Lot 4, corn, shorts, tankage and buttermilk; Lot 5, corn and linseed oilmeal; Lot 6, corn, linseed oilmeal and buttermilk; Lot 7, corn, shorts and linseed oilmeal; Lot 8, corn, shorts, linseed oilmeal and buttermilk.

Important Self-Feeder Test

A great boost has been given to the use of the self feeder in growing and fattening hogs. Tests have been made at the experiment station and in many counties of the state very satisfactory demonstrations in feeding hogs with the self feeder have been conducted under the supervision of the farm bureau organizations. There are a lot of things yet to find out about this method of feeding, and one is to determine the age at which it is best to put pigs on the self feeder. No reliable information is available on this point. In the experiment station plans for the coming season ten spring pigs will be put on a self feeder as soon as they are weaned.

The remaining pigs in the test will be divided into two groups, designated as Group A and Group B. Group A will be hand fed a full grain ration on alfalfa pasture. Group B will be fed a half grain ration on alfalfa pasture. At the end of each thirty-day period after the first ten pigs are placed on the self feeder, five pigs will be taken from each of these two groups, placed in an alfalfa pasture and allowed free access to a self feeder. This will continue through the season and the results should show the relative advantages of the different times at which the pigs are started on the feeders.

Vitamines in Kafir

We are hearing a great deal these days about certain unknown substances in feeds, these unknown substances having a most vital relation to the growth and development of young animals. They are commonly spoken of as vitamins. Laboratory tests with small animals indicate that the grain of kafir is deficient in these most vital substances. A test has been planned to determine to what extent this is true in connection with the feeding of farm animals. Brood sows will be used in this test, and the tests will continue for three successive generations. This information will be of great value, for kafir is being largely substituted for corn. It has been generally found to be about 10 per cent inferior to corn in feeding value. It may be that this lack of vitamins has something to do with this inferiority, and that by making some provision to supplement the kafir with some food supplying the needed vitamins its value may be increased.

Studies relative to the value of forage crops in pork production are always in order, for no man should think of trying to produce pork without providing an abundance of pasture. Tests will be made of the value of such crops as Sudan grass, rape and sweet clover. Not every farmer will grow alfalfa successfully, and some other forage must be used to cheapen the cost of pork production.

Work With Sheep Increasing

Sheep feeding work is to be given more consideration than ever at the station farm. Sheep work has been going on for a number of years, but it has necessarily been much handicapped. The sheep have been crowded in wherever a place could be found. New sheds have now been built and the sheep barn has been moved across the road to a more convenient location. Land suitable for the growth of forage and use as pasture has been definitely set aside for the experimental work with sheep. At the present time seven lots of feeding sheep are being finished for market. The rations being fed are as follows: Lot 1, corn, alfalfa hay, silage, and linseed oilmeal; Lot 2, corn, alfalfa, silage, and gluten feed; Lot 3, corn, alfalfa, silage, and cottonseed meal; Lot 5, hominy feed, alfalfa hay, and silage; Lot 6, alfalfa hay, silage and linseed oilmeal, and Lot 7, corn and alfalfa hay. The purpose of this test is to determine the relative value of corn substitutes, different protein supplements and silage. A series of tests will be started this season to study the value of various



SOME OF THE SHORTHORN COWS IN THE TWENTY-YEAR BREEDING EXPERIMENT AT THE KANSAS EXPERIMENT STATION

(Continued on Page Nine)

Who Owns The Standard Oil Company?

(Indiana)

THE Standard Oil Company of Indiana is a corporation owned by the people at large, doing for the people, to the best of its ability, a big job in a highly specialized branch of industry.

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Drainage and Liming

IN DISCUSSING the relationship of drainage and liming to available plant food, it is pointed out in a recent bulletin of the National Fertilizer Association that the soil might be considered as a firebox in which organic matter is burned. This in fact is just what it is—a firebox in which organic matter must be consumed—by rotting or decay—before the plant food locked up in organic matter, the nitrogen, potash and phosphoric acid, can be unlocked, or set free, in usable form for the benefit of growing crops.

Anything which increases the circulation of air in this firebox increases decay. In our issue of February 8 under the head, "Tillage and Soil Fertility," the manner in which the tilling of the soil affects the availability of plant food was discussed. In brief it acts by opening up the soil, admitting air and in general promoting the decay of organic matter. Under-drainage of wet soils acts in precisely the same way—surplus water is drawn out, air is admitted, and the burning processes continue. We often say, therefore, that the artificial drainage of wet lands makes soil plant food more available—as, indeed, it also does for that contained in manure and fertilizer applied.

Now in a real firebox, ashes, cinders, and clinkers may accumulate, so as to actually destroy the fire, and prevent further burning. In the soil much the same thing happens, but in this case it is acids that are produced, similar, in a way, to those produced during the souring of milk, and the fermenting of silage. These organic acids, when pro-

duced in quantity, act much the same as does the vinegar in a pickle barrel—to preserve the organic matter and prevent further decay.

This is where lime comes in. It reacts with the acid produced, sweetens the soil and leads to still further rotting and decay. In a way its action is similar to that of removing the products of combustion from our actual physical firebox. Naturally, with this increased decay, organic nitrogen is changed to available form, potash and phosphoric acid are set free in usable form, and a time crops grow and flourish accordingly.

But—is this a permanent solution to the fertility question? Will lime drainage add to the fertility of the soil? Absolutely not!

You remember the old saw—

"Lime and lime without manure
Makes both farm and farmer poor."

This is as true today as it ever was. Liming is necessary. Artificial drainage is often necessary. Both increase the availability of soil plant food, and ultimately lead to soil depletion and sterility, unless with them are followed certain practices for maintaining organic matter, and for making good the plant food losses of the farm.

Good farming leads to large yields. Large yields require large quantities of available plant food, therefore the farmer in a neighborhood is also the one who looks carefully and consistently at the matter of putting back into the soil fertility, both in the form of farm manure and commercial fertilizer.

FARM AND GARDEN MEETING

The Kansas Woman's Farm and Garden Association held its second annual meeting in Topeka, February 25 to 27. This association was organized to help solve the problem of food production and conservation of the food supply. Its specific objects are: Co-operation among women engaged in farming and garden work; the interchange of ideas between members; the giving of advice and assistance to women who wish to make a profession of agriculture and horticulture; co-operation with organizations enlisting women for work, and the encouragement of school and vacant lot gardening.

A paper written by Miss Lucretia Campbell, of Allen County, who was unable to be present, called attention to the possibilities before the woman of today which were undreamed of a generation ago, referring to Lucy Stone and the tide of opposition she encountered less than a hundred years ago because she aspired to the same education given her brother. One of the women attending the meeting—Mrs. J. Gibson Wood, of Topeka—happened to be a distant relative of Miss Stone and in childhood had known her. She told how Lucy Stone and Hannah Snow were permitted to attend lectures at Oberlin College in Ohio, but were given no opportunity to recite in class or to ask questions during the five-year course. At about the same time in New York a proposal to establish a young ladies' seminary was voted down because, in the words of one of the objectors, "You can't get grammar and clean corners out of the same woman."

Miss Campbell told how Lucy Stone's first speech was made in Oberlin College on the subject, "The Anniversary of Emancipation in the West Indies." The next day she was called before the ladies' board, which desired to reason with her against public speaking, the same being at that time considered both unwomanly and unscriptural. Miss Stone refused to follow in the old beaten path, but stood so well in her classes that she was graduated with honors and assigned to prepare an essay, which she was informed one of the professors would read for her. She promptly declined to write it. Later, as Lucy Stone Blackwell, she traveled over much of the United States lecturing against slavery and always putting in a few words for woman suffrage. The minister of the Congregational Church at Malden, Massachusetts, when asked to announce that she would speak, made the announcement in this way: "A hen will undertake to crow like a cock at the town hall this afternoon. Anybody who wants to hear that kind of music will of course attend." Much opposition and persecu-

tion was met with, but she had the courage to stand for her convictions and to pave the way for the women of today.

"Many other brave and courageous women have followed in her footsteps," said Miss Campbell. "Can the women of today afford to be less courageous, less active, in furthering the new reforms that are to build a greater tomorrow? Step by step woman has broken down every barrier that stood between her and public influence. Today our leaders are more than anxious to class themselves by the hand on an equal standard with men."

"Some years ago a knight of the olden time said that if women should come together with a single purpose for good that would constitute a force all-powerful. His prophecy has come true. The Woman's Land Army has but one purpose in its organization—duty. The world must be fed. This great army of women is going to break all records. 'Progress' is the battle cry. There can be no turning back."

"Yesterday Lucy Stone was ridiculed for speaking in public. Today the State Board of Health is sending out calls to all the organized women to lend their influence for House Bill No. 404, which provides for dividing the state into sanitary districts, each district to be under a full-time health officer who would be authorized to employ public health nurses. This measure is vital for better health work in the state along all lines and I believe should be supported."

"As the courageous Lucy Stone and her followers build for the women of today, so must we build for the women of tomorrow, and so on down through the centuries of time."

Practical talks on gardening, orcharding and floriculture were given to the association by O. F. Whitney, secretary of the State Horticultural Society; F. A. Reinisch, Gage Park, Topeka; Eva Harding, of Topeka, and others.

The resolutions passed endorsed the request of the American Forestry Association to plant memorial trees along the public highways, urged co-operation between the association and the State Horticultural Society in promoting more gardening work by children in every section of the state, the extensive planting of fruit and gardens, favored the creation of a farm woman's bureau in the State Board of Agriculture, and urged legislative enactment if necessary for the beautifying of the state grounds.

Most of the old officers were re-elected. Mrs. Theodore Saxton being again chosen as president of the association; Miss McEdna Corbet, vice president; Miss Louise Krigbaum, treasurer; Mrs. Elsie V. Arthur as secretary.

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STEIN ASSOCIATION BUSINESS
The Holstein Breeders' Association of Kansas is getting in line to make its name felt in the affairs of the national association. Senator J. M. Hackney of Wisconsin, a well known breeder represented the national association at the Kansas Holstein meeting, urged the members of the state to send representatives to the annual meeting which is held in Philadelphia. He deplored the fact that a big national association of this kind could have its affairs directed almost exclusively by a few men of the Kansas breeders suggested a large number of proxies went to Kansas, but Mr. Hackney insisted this did not constitute real representation.

The business session held immediately following Senator Hackney's address at the matter of representation at the next meeting of the national association was taken up. Six delegates were selected to represent Kansas breeders and an effort was made to name one who would promise in advance to attend. The delegates selected are as follows: A. S. Neale of Manhattan, secretary of the Holstein Breeders' Association of Kansas; W. H. Mott, Herington; Chestnut, Dennison; John Johnson, Topeka; Sam Carpenter, Jr., Oswego; C. W. Dingman, Clay Center. The delegates were authorized to select their alternates in case they were unable to attend. Kansas members of the national association should send their proxies to one of these delegates. Kansas is bringing into the game strong enough to have a voice in the affairs of the national record association, and this idea is making sure that some Kansas breeders attend the meeting is a good one.

No business is absolute honesty and ability of greater importance than in the breeding of pure-bred stock. During the progress of the Holstein meeting a complaint was made by a breeder of a certain member of the association who had made statements not founded in fact in connection with a sale. Men engaged in the pure-bred stock business average high in the matter of honesty and integrity, and this mention of occurrence indicating a departure from the high plane upon which the business of a pure-bred stock breeder should be conducted brought an immediate response in the form of the appointment of a committee of the association to investigate the charge made. George Appleman of Mulvane was the unanimous choice of the breeders present for president of the association to succeed Ben Schneider of Nortonville, who has been president the past two years. Mr. Appleman has developed into a dairyman and a breeder of Holstein cattle since coming to Kansas some nine years ago. In making a response to the call of the toastmaster at the banquet following the business meeting Appleman explained that he fully expected to specialize in pork production when he came to Kansas and began farming in Sedgwick County. He soon found that a crop suitable for cow feed was far more sure than grain for hogs, and his attention was directed to the wonderful capacity of the Holstein cow to convert farm-grown feeds into milk. He discovered that corn or kafir prepared from maturing grain by lack of a contained more nutrient value in its fodder part of the crop than if it were turned out a good yield of grain. This was the foundation of two pure-bred herds he has built up a herd of high producers.

The lesson Mr. Appleman learned relative to the certainty of producing feed for cows is one that might be taken to heart by many who are disappointed because of failure to produce big yields of grain every year. The silo of course is a piece of equipment necessary to utilize fully on the value of these forage crops.

W. Enns of Newton was elected president of the Association. A. S. Neale of Manhattan was re-elected secretary,

and W. H. Mott as general manager. F. J. Searle of Lawrence and W. A. Smith of Topeka were elected to the committee. Some seventy-five or eighty members were in attendance at the meeting. The secretary announced that the total paid-up membership was 155. A good many new men are starting with the breed and are becoming members.

Hogs made another gain the past week, the top being \$19.70. They are likely to go to \$20 before the market turns down materially. Those who feel that hogs are too high now should recall that last fall when the runs were heavy they were too low in view of the cost of production.

DAYLIGHT SAVING BEGINS

City folks are now fooling themselves into beginning work in the morning an hour earlier and as a reward can have an hour more of daylight in the evening to play golf or go joy-riding or perhaps work in their gardens. City people who were responsible for getting this daylight-saving law passed as a war measure in the interests of increased food production have virtually admitted that they are so tied to the habit of watching the clock when they begin and stop work as to be unable to begin an hour earlier during the summer season without this childish expedient of making believe it is 8 o'clock when really by the sun it is only 7 o'clock. Farmers, who work by the sun, will do just as they have always done except when it is necessary to take a train, ship some live stock or make some other connection with affairs regulated by the new time.

K. S. A. C. FARES WELL

The Kansas legislature has dealt very liberally with our agricultural college in the matter of appropriations. For the two years beginning July 1, 1919, a total of \$1,675,000 was voted for the use of the college proper. This is in addition to the amount set aside for extension and demonstration work to match the money provided by the federal government under the terms of the Smith-Lever act. For this purpose the legislature appropriated \$63,075.65 for 1919-1920 and \$75,203.20 for 1920-1921. The federal government will supply \$73,073.65 for the first year of the biennium and \$75,203.20 for the second.

The Fort Hays Branch Experiment Station will receive \$41,000 as compared with \$20,000 in the preceding two years, and the other branch stations are well cared for.

The appropriations for the college proper are approximately 33 per cent greater than those of two years ago. A feature of the appropriation bill of unusual importance is the 190,000 item for completing the central part of the engineering building. This division of the college work has been much handicapped for lack of space. The electrical work has been crowded into Denison Hall, necessarily cramping the expansion of the work of chemistry and physics. Completing the central part of the engineering hall in line with the plan conceived some years ago will more than double the floor space. The plans contemplate ample coal storage facilities which will economize tremendously on labor in operating the heat and power plant. Work on this new building may begin soon, as \$50,000 of this appropriation is virtually a reappropriation of an amount set aside two years ago for a building and not used.

Live stock men who have inspected the equipment for handling hogs at the college will be glad to learn that an item in the appropriation bill permits the building of new facilities for developing this most important work. A new water system will also be constructed, and \$10,000 will be spent in the two years in testing road-building materials for the State Highway Commission.

In commenting on the liberal treatment by the legislature, President Jardine said, "It shows the legislature be-

lieves in us, and its generous appropriations place a big responsibility on us to make good and prove worthy of its faith in us."

CO-OPERATIVE STOCK SHIPMENTS

We cannot commend too highly the neighborhood co-operative live stock shipping club or association. It is a form of co-operative effort so easily worked out and so certain in its results that the wonder is so few are in operation. The reason small, local co-operative efforts, such as the egg-shipping clubs, silo filling clubs and others of like nature are not more numerous is perhaps that they are not on a large enough scale to satisfy the ambitious co-operator who wants to do things in a large way and is not interested in these small beginnings. These neighborhood efforts in co-operation furnish the best kind of training for later success with the larger enterprises and are a real source of profit as well.

We are all familiar with the method whereby the farmer with only a small amount of live stock to market must sell. Some local hog or cattle buyer goes about the country either on horseback or in a jitney and buys of each producer. He is an expert in guessing at weights and generally succeeds in buying on his own estimates. Later the farmer hauls or drives his animals to the station, where they are paid for by the buyer and shipped. When the producers in the community wake up to the fact that they are not getting what they should for their stock they organize into a club and arrange to market their own live stock. A committee is appointed and a day set for the assembling of market animals of the community. The shipment is accompanied by a man selected to represent all the shippers and the entire proceeds, less the freight, commission charges and other necessary expenses are distributed among the members of the shipping association. Each man shares in the profits of such an association in proportion to the business he does.

We noticed a statement recently that the returns from live stock shipped out of McPherson County had increased \$100 a car as a result of co-operative live-stock shipping which has been made one of the farm bureau projects in that county. Farmers were dissatisfied with local market conditions and one of the first activities of the farm bureau when it was organized was to promote co-operative live-stock shipping clubs. The first one organized was among the farmers in the vicinity of Mound Ridge. A local live stock man was selected as manager. The first carload of hogs shipped to Wichita brought \$16.10 a hundred, netting the shippers \$15.50 a hundred, 60 cents a hundred covering all shipping expenses. Sixteen carloads, valued at \$42,809, were shipped by this association in 1917, and twenty cars in ten months of 1918. In financing the work a fee of three cents a hundred on hogs and two cents a hundred on cattle is charged to provide a sinking fund to cover such losses as might occur in shipping. The manager received six cents a hundred in 1917 and seven cents a hundred in 1918 for his services. The manager accompanied all shipments to market. The average shipping cost for the first was 70 cents a hundred, but it increased to 84 cents a hundred in 1918. This organization now has 107 members, and is increasing in strength. The members estimate that they have saved an average of at least \$100 on every car shipped. The next association was organized by the Hawkeye Grange at Canton, and in the first twelve months of its existence thirty-three carloads of live stock were shipped, the net returns to members amounting to \$80,973. A member of this association estimates the saving at 40 cents a hundred, or \$2,000 on the year's business. The average cost to the shipper has been from 90 cents to \$1.20 a hundred. The manager gets 10 cents a hundred on all stock

shipped. Insurance is five cents a hundred on hogs and three cents a hundred on cattle, and on mixed cars it is three cents a hundred straight.

The successes of these two associations gave the idea a boost over the whole county and local live-stock marketing conditions have been much improved as a result. Three or four similar organizations in the county are likely to be made during the present year.

STATE DAIRY COUNCIL

At every dairy meeting we have attended during the past few months the necessity for advertising dairy products more widely has been urged. In the beginning of our participation in the war our government had propaganda going which led consumers in cities to believe that the use of substitutes for dairy products was a patriotic duty. There was grave danger that the great industry of dairying would be seriously handicapped. This would have been a world calamity, for without milk and dairy products some have maintained, and with substantial arguments, that the human race could not exist. Through the efforts of organized dairy interests the government was led to see the error of the policy being pursued. It was recognized that nothing must be done that would cripple the producer of milk and dairy products.

Advertising dairy products through the united efforts of all dairy interests is likely to become a reality in Kansas. It is a part of a national movement. The forming of a state dairy council to put on this campaign was taken up at the meeting of the Kansas State Dairy Association in Manhattan last February and a committee was appointed to work out the details. Last week while the Holstein Breeders' Association of Kansas was holding its annual meeting in Topeka, representatives of several of the breed associations met with the creamerymen and ice cream makers and formed a tentative organization contemplating the placing of a paid secretary on the job whose duty would be to conduct a state-wide campaign of publicity for dairy products reaching out into all the towns of the state and co-operating with the activities of the National Dairy Council. It will take money to carry on such a campaign, but if everyone interested helps, the cost will be light. The plan which has been followed in other states and will probably be adopted in Kansas is to ask for a small tax of a half cent to a cent on every hundred pounds of milk produced, a similar tax on the butter fat used in creameries, and taxes of like nature from other interests. All this will of course be voluntary. At the business meeting of the Holstein Association the matter was presented and met with much favor. It was voted to indorse the plan and back it financially to the amount of \$2,500. Before the meeting adjourned twenty-four Holstein breeders pledged \$50 each, and a number of smaller pledges were made.

The organization of this dairy council of Kansas as it now stands has an executive committee consisting of the presidents and secretaries of the state Jersey Breeders' Association, the state Ayrshire Breeders' Association, the state Holstein Breeders' Association, the state Creamerymen's Association, the state Ice Cream Makers' Association, and the Kansas and Missouri Milk Producers' Association. A good start has been made in this matter of going after a wider market for dairy products.

While it would have been impossible to have fought the war without the motor truck, the automobile and the motorcycle, it would also, says a foreign correspondent of the Washington Post, have been impossible to have fought the war without the horse.

The University of Hard Knocks is always in session. And it never confers any honorary degrees.—California Voice.

GRAIN GRADING AT TERMINALS

Inspection Departments at Central Markets Under Federal Supervision

THERE are two inspections of grain at terminal markets—inspection of grain received and of that shipped; inspection "in" and "out," are the trade terms. All grain received at terminal markets is inspected from samples taken from the cars (or boats, where received by water). Inspection "out" is of grain as it is being loaded out of terminal elevators into cars or boats. The "in" inspection is the one that concerns the farmer.

The grain inspection departments in the United States are under federal supervision, though established and maintained either by states or grain exchanges. At Chicago, for instance, the inspection department is maintained by the State of Illinois and the inspectors are in the employ of the state; the Chicago Board of Trade has nothing whatever to do with the department. The same is true of Minnesota and Missouri, the former with important grain markets at Minneapolis and Duluth, and the latter at St. Louis and Kansas City; yet the grain exchanges have no control over the grain inspection departments; the departments were established and are maintained by the respective states.

Federal Supervision

Yet the inspection of grain in all states is under federal supervision; and while the grain inspectors are in the employ of their states, they are licensed by the United States Department of Agriculture and any license can be suspended or revoked. Federal grain supervisors are thereby enabled to have a check on the inspectors and bring about and maintain uniformity of inspection for wheat and shelled corn between the various markets.

Yet even this would not be possible but for the fact that federal grades, or official standards for wheat and shelled corn, have been established and are in force in all markets and states. Official standards for other grains have not been established.

To summarize, inspection departments are maintained and controlled by states or grain exchanges, but are licensed by the United States Department of Agriculture and the licenses can be suspended or revoked; and, federal grades, or official standards for wheat and shelled corn, are in force in all states and at all markets and are entirely under the control of the United States Department of Agriculture. Furthermore, all grain received at terminal markets is inspected in the cars or boats in which received, and all grain shipped is inspected when it is loaded out of terminal elevators. It should be said that the inspection of all grains but wheat and shelled corn is on the basis of grades established by the several inspection departments, for there are at the present time no federal grades for oats, barley, rye and flaxseed.

Sampling Is the First Step

First in the order of grain inspection, and just as important as any other step, is the securing of a representative sample of grain from every car received at a terminal market. The sample should be representative of the entire carload, for the sample and the grade given to it are the basis for the price. Therefore, if the sample does not represent the entire shipment, the price will be either too high or too low. The receivers of grain have samples taken for them, as do the inspection departments. In some markets sampling bureaus are maintained by private companies, and in others by the grain exchange, and the men from these bureaus take samples for the receivers. These samples are displayed on the tables in the trading-room of the grain exchanges and the grain is sold on them, subject to the grades that are established by the inspection department.

In Chicago, the Department of Grain Sampling for securing samples for the receivers is under the control of the Board of Trade, exercised through a committee appointed by the board of directors. This committee appoints a chief grain sampler, who appoints his own assistants. Yet the buyer or seller or his representative is at liberty to personally examine any car or cargo of grain bought or sold under the rules of the Board of Trade.

The samplers go into the railroad

Specially Written for Kansas Farmer by Rollin E. Smith,
Grain Supervisor, Bureau of Markets, United
States Department of Agriculture

yards and take a sample from every car of grain, which is done by means of a grain trier or probe, which is a double tube five feet in length. This is thrust into the grain and the inner tube turned by means of a handle, when grain is admitted into ten openings distributed along the length of the tube. The trier is closed and withdrawn and its contents emptied upon a piece of canvas carried for the purpose. At least five proves are taken from the grain in different parts of the car. The grain is emptied on the canvas lengthwise from the trier, each separate tierful apart from the others, so the grain from each compartment can be noted separately.

The grain thus taken from a car is mixed on the canvas and part of it put into an airtight container, for the moisture test, and the remainder into a clean cloth sack (into which the airtight container is also placed), when the sampler proceeds to the next car. The samples are two quarts in size.

For the purpose of an appeal or a dispute, according to the regulation of the Department of Agriculture, no sample shall be deemed to be representative unless it is at least two quarts in size, of which at least one and one-eighth pints shall be inclosed in a clean airtight container and the remainder in a clean cloth sack.

Such a sample, taken as described, is regarded as being representative of the entire lot of grain in the car. The handling of samples varies somewhat in the different markets, but they are taken from the cars in the same manner.

Since the establishment of federal supervision and official standards for wheat and shelled corn, the methods followed in the various inspection rooms are practically the same. A little time spent in watching the grading of samples would convince anyone that the inspectors are following rules of a scientifically devised system. Yet the grading is simplicity itself, and largely mechanical; that is, the determining of the grades does not depend upon unusual skill or judgment.

In an inspection office at a large market during the busy season, many inspectors are kept busy determining the grades from the samples submitted, while others are making moisture tests in an adjoining room, which looks not unlike a miniature distillery; and this is not far out of the way, either, for small samples of grain are actually distilled, and the water so extracted is an important factor in determining the keeping quality of the grain.

The Sample in the Inspection Room

When the sample reaches the inspection office, the airtight container is immediately delivered to the man in charge of the moisture-testing room.

The procedure in assigning a grade in an actual transaction in an inspection room at a big market may be described as follows: An inspector receives a sample of wheat, with no mark on it but the car number and the road over

which the car came. There is no other mark on the tag in the sack—nothing to indicate the shipper's name nor the station from which shipped. The sample is first run through a mixer, one of which stands at the end of each inspector's table—the inspectors work at high tables. This thoroughly mixes the seeds and other foreign substances with the wheat. The sample is divided by the mixer into approximately two equal parts of 1,000 grams each.

For testing, 1,000 grams of the wheat is accurately weighed. Grams are the unit of weight; pounds and ounces are not used. Scales on which grain samples are weighed are special only in the markings on the beam.

Dockage and Foreign Material

The portion of the sample being tested is now run through the "wild oats kicker" to remove the coarse dockage, such as oats, barley, and pieces of stems and trash. The wheat is then sifted by hand to take out the small seeds. The "roughage" is also sifted to take out small kernels and broken kernels of wheat. These kernels are then put back in the sample. The coarse dockage and fine seeds are then weighed to determine the dockage. In arriving at the dockage, percentages are used instead of pounds per bushel, as was formerly the custom.

The "foreign material other than dockage" determination is made from the same portion that the damaged wheat is picked from. Foreign material other than dockage consists of wild vetch, known in the grain trade as "wild peas"; wild rose seeds, darnel, corn cockle, and kingheads. Owing to the size and weight of these seeds it is impossible to separate them from the wheat with ordinary cleaning machinery. For that reason they were formerly called "inseparable." The term "foreign material other than dockage" includes "all matter other than wheat which is not separated from the wheat in the proper determination of dockage, except as provided in the case of smutty wheat."

It is necessary in order to determine the percentage of these seeds in a sample of wheat, to pick them out by hand. Fifty grams of wheat from the sample is weighed out for this purpose. The inspector, with tweezers, picks out all of the seeds remaining in the fifty grams taken from the sample after the dockage determination has been made, and at the same time watches for smut balls. This sample may contain say 1.7 grams, or 3.4 per cent, of wild peas and cockle. There may also be a few smut balls, which would further penalize the wheat.

The Test Weight

The "test weight" or weight per measured bushel is one of the most important factors in arriving at the milling value of wheat. Test weight is determined by means of the well-known "brass kettle," and clean or dockage-free wheat is used. The methods of using this tester in the inspection rooms obvi-

ate any possibility of inaccuracy or unfairness, if instructions are followed.

The sample being tested is first poured into the funnel, the aperture of which is one and one-fourth inches in diameter, which is closed while the funnel is being filled. The outlet to the funnel is placed exactly two inches above the kettle, and when the inspector opens it the wheat drops into the kettle and overflows it. The amount of wheat that stands above the edge of the kettle is then struck off by means of a stroke or wooden rule prepared for the purpose, using a zigzag motion. Every operation in making this test is very simple, and so mechanical that the possibility of error is almost entirely eliminated.

The sample when inspected is put back into its bag and hung on one of the many racks in the inspection room, where it remains for forty-eight hours, in case a reinspection was called.

The Moisture Test

In making the moisture test 100 grams of wheat from the airtight container is weighed and this put into a glass flask or retort containing 150 centimeters of cylinder oil. The flask is then stoppered with a cork through which a thermometer is inserted, reaching down into the oil until three-fifths of the bulb is covered. The flask has a small outlet near the top and this outlet, when the flask is put into place in a rack, is connected with another flask, which is kept cool by means of running water. Heat is turned on and the flask containing the wheat and oil heated to a temperature of 180 degrees Centigrade. The steam thus formed, and which passes into the second flask, is condensed and dropped into a graduate. The markings on the graduate show the percentage of water contained in the sample of grain.

This operation, like all the others, is simple and largely mechanical, yet very accurate. It requires about twenty minutes to determine the percentage of moisture in a sample of wheat.

The following percentages of moisture are allowed in the different grades of wheat: No. 1 spring wheat, 14.0 per cent; No. 2, 14.5; No. 3, 15.0; No. 4, 16.0; No. 5, 16.0. No. 1 winter and white wheat, 13.5 per cent; No. 2, 14.0; No. 3, 14.5; No. 4, 15.5; No. 5, 15.5.

Wheat containing more than 14.5 per cent of moisture is unsafe to store, as it is likely to heat.

Increasing Kanred Production

There will be enough Kanred wheat available to seed the whole hard wheat acreage of Kansas by the fall of 1920, says Prof. S. C. Salmon of the agricultural college.

There are probably 1,000,000 acres of wheat area in Eastern Kansas where Kanred is not the most desirable strain to grow. For the remaining acreage in the state—at least 7,000,000 acres under entirely normal conditions—the most conservative estimates place the gain from Kanred at three bushels to the acre, meaning a total annual gain to the state of 21,000,000 bushels.

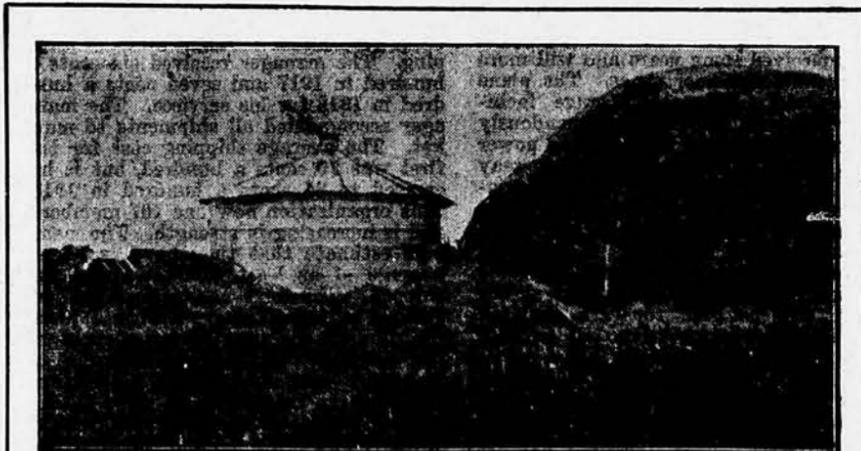
The actual gain is likely to be considerably greater. In the wheat regions of the state the gain from the use of this strain has ranged from three bushels up to eight bushels an acre. In tests carried on by the agricultural experiment station at Manhattan, the average gain has been five bushels. Tests carried on by co-operating farmers have shown an approximate gain of four bushels to the acre.

Work toward developing the strain of wheat now known as Kanred was started at the agricultural college in 1906. Eight years later the first distribution of seed was made to farmers.

Last fall 50,000 acres were sown to Kanred wheat. It is planned that the total yield shall be used for seed. The Kansas Crop Improvement Association has suggested a price of \$3 a bushel, net, for the seed next summer.

The planting of the total 1919 yield will result, it is expected, in a sufficient crop to plant all the wheat acreage in the state in which Kanred is desirable.

About all you can do for a boy, worth while, is to give him something good to remember.—IRVING BACHELLER.



FARM STORAGE OF WHEAT SHOULD BE ENCOURAGED FOR 1919 CROP.—CUT SHOWS CONVENIENT MOVABLE BIN

WIPE OUT TUBERCULOSIS

Nationwide Campaign to Wipe Out This Disease from Our Herds

EVERYONE who pays any attention to the economic problems of our country or anyone who is interested directly or indirectly in live stock production knows that bovine tuberculosis is one of the heaviest taxes on one of our greatest industries. When a statistician estimates that the annual loss of cattle and hogs from this cause amounts to \$40,000,000, we are impressed, but we do not get such a clear idea of the actual loss in food as we do from the estimate made by Mr. Brown, president of the Chicago Live Stock Exchange. Last December he made the statement that the loss in a year would amount to approximately seventy train-loads of stock of forty cars each, largely hogs. And this is not all. We can not measure the loss of feed that results when diseased animals are kept in the herd.

This great plague is spread from one end of the country to the other, but is most prevalent in the older dairy states. In the South and in most of the range states of the West the percentage of diseased animals is very low. In some of the intensive dairy regions it is estimated that as high as 30 per cent of many herds are diseased.

The Bureau of Animal Industry and the state live stock sanitary authorities have set out to stop the ravages of this malady and their ultimate object is to wipe it out entirely just as they are now rapidly cleaning out the cattle tick. In those areas that are now only slightly infested the task will not be difficult if care is taken not to bring in diseased animals from other states. If it is cleaned out of cattle and kept out it will soon disappear from hogs, as they almost invariably get it from cattle.

Prevention of the interstate shipment of tuberculous cattle is a big factor in stopping the spread of the disease. The importance of this question of distribution may be seen from reports that come from federal veterinarians in various states. In 1918 bureau veterinarians in Alabama tested 12,121 head of cattle in co-operation with the state authorities. Of the 10,736 native cattle included, only 42 per cent reacted, or 39 per cent. Of the 1,385 that were brought in from other states seventy-eight reacted, or 5.2 per cent. There was thirteen times as much tuberculosis in the cattle brought in as there was in the natives. Similar results were obtained in other southern states.

No better argument can be presented against the unregulated shipment of cattle from one state to another. It is just as important to prevent distribution as it is to clean up already infected herds. The tuberculin test is of course the foundation on which all of this anti-tuberculosis work rests. The newly-devised accredited herd plan is, however, a development that promises to be of the utmost importance in making the cleanup plan practicable.

A short time ago veterinarians of the Bureau of Animal Industry of the United States Department of Agriculture were asked to examine and test a herd of pure-bred dairy cattle on a certain farm. There were sixty-six head on the place and the tuberculin test showed that fifty-seven of them were diseased. The owner was astounded, but a post mortem examination convinced him that the government men knew what they were talking about and he decided that it would be foolish to continue in the business of producing breeding animals on such a tottering foundation. Only a few years ago he might have scoffed at the idea of cleaning up the herd as the impractical notion of sentimentalists. Now he knows that it is good business.

Only a short distance from the farm where this diseased herd was located is another large herd of the same breed that has been tested every year for several years. For a considerable period no animal on this farm has reacted to the test and great care is taken to prevent the introduction of unhealthy animals through purchase. The average production of the cows in this herd is high, but the manager considers the fact that a government certificate says they are free from tuberculosis is of equal importance in establishing their value. Would a buyer looking for a herd foundation or for new blood hesitate

one minute in choosing between these two herds? He would undoubtedly consider it bad business to buy even the clean animals from the badly infected herd.

The fact that the Bureau of Animal Industry has certified that this herd has passed two tests and on both was found absolutely clean has given the prospective buyer confidence and has increased the value of the cattle as well as the price he is willing to give. The name of this farm and the number of cattle in the herd are to be found in the official list published by the bureau. There is nothing in the appearance of the animals to distinguish them from many that are badly diseased. The veterinarians of the bureau who tested the two herds mentioned, took photographs of both and not even experienced men could pick the diseased from the healthy by looking at the pictures. Both look to be good herds. No better proof is needed that the tuberculin test is necessary above everything else in the fight to eliminate the greatest cattle plague.

But we have learned through costly and discouraging experience that there are other factors of very great importance in making headway against the malady. For twenty years science has known how to determine with very high accuracy whether or not an animal is suffering from tuberculosis, but the progress toward elimination has been so slow as to be almost imperceptible. Cat-

periodically a list of all herds of cattle that have been accredited and that have passed the first test. The methods and rules for having a herd accredited are, also, published by the bureau. When a herd has been brought up to all the specifications the bureau issues a certificate to the owner. Before a herd can be accredited and the owner be entitled to the much-coveted certificate, it must be found to be absolutely free from the disease, as far as every human agency and the tuberculin test can determine.

Various rules have been passed in order to insure the reliability of the test and to prevent any spread of the disease. When a herd has been entered as a candidate for a certificate it is subject to close scrutiny by the government or state officials. They may retest the herd whenever they consider it necessary. Satisfactory evidence of the identity of animals must be furnished. When cattle are removed by sale, death or slaughter, a report must be made, and if the animal is sold, the name and address of the buyer must be given. Cattle that are shipped from one accredited herd to another must be handled in properly disinfected cars.

These are only a few of the requirements but they serve to illustrate how carefully the men who have charge of this work have planned in order to make the certificate "Tuberculosis-Free Accredited Herd," mean exactly what it says. The work is being done on indi-

even shorter time, the results are most encouraging. The Bureau of Animal Industry feels that the work done in thirty-three states the first year contains promise of great success and possibly final elimination of the great plague. There are now about three hundred herds of beef and dairy cattle that have been fully accredited, North Dakota, Minnesota and Virginia having the most. Somewhere around 1,500 herds have passed the first test. About a thousand pure-bred herds are under supervision being prepared for the first test. More than 3,000 grade herds are, also, being prepared. Here we have a total of more than 6,000 herds that have been under supervision during the past year. Some of these herds are in states that have made no supervision to compensate owners, and, therefore, the owners who have reactors get no compensation at all.

In several states and the District of Columbia, efforts are being made to wipe out the disease in certain small areas. In the District of Columbia the bureau veterinarians have made a convincing demonstration of the feasibility of cleaning up certain areas. In 1909 the herds contained 18.87 per cent reactors. Now there are less than one per cent.

This plan of fighting the big enemy of the cattle grower and dairyman bids fair to grow rapidly in popularity, and if Congress provides more money, as it is being asked to do, the work will be still more accelerated. However, the greater the demand for supervision and for certificates, the greater the need for capable men to make sure that the certificates mean something. We are starting out on a long fight against the worst animal disease in the country and the most important provision for success is a large staff of capable veterinarians who are not perennially subject to salary temptation from the outside.

Grow Some Popcorn

Popcorn will succeed on any well-drained fertile soil where field corn can be grown. Good results have been obtained by the use of five or six loads of stable manure per acre and by the application of 200 pounds of acid phosphate per acre. The best time for planting the crop is between May 20 and June 15, although it may be planted somewhat later. The seed bed should be fine and well prepared. Thorough cultivation will lessen the number of cultivations necessary during the season. The crop is usually planted at the rate of three pounds per acre in rows three or three and a half feet apart. It may be planted with the corn planter or with a grain drill in which some of the feed cups have been closed. Popcorn should be carefully and thoroughly cultivated. Very shallow and frequent cultivation is desirable. The crop ripens in 100 to 135 days, depending upon the season and upon the variety of corn used. The ripening can be hastened by the application of acid phosphate, but it is retarded by the application of stable manure.

Popcorn may be harvested in the same way as a general corn crop, or small areas may be harvested with a corn knife. Seed selection in the field gives especially good results with popcorn, since there is a very wide variation of type in this crop.

There are two distinct classes of popcorn, known as rice corn and pearl corn. Rice corn has kernels more or less pointed, while pearl corn has kernels rounded or flattened over the top. Some of the best varieties are Milk Rice, Snowball and Egyptian. Standard varieties of the Pearl class are common White Pearl, Mapledale Prolific, and Nonpareil. The most valuable of the yellow pearl varieties are Clean Golden and Dwarf Golden. Generally the pearl varieties give larger yields than the rice varieties.

A good start for a garden is often lost about the time that the weeds appear. No matter how carefully the garden may be planted or how rich the soil or costly the seeds, failure will surely follow if the proper cultivation and care is not given during the growing season.



BEAUTIFUL DAIRY SCENE ON FARM OF JOHN LINN & SON, RILEY COUNTY.—HIGH-PRODUCING AYRESHIRE HERD IS BEING DEVELOPED

the owners had no desire to endanger the public health by selling infected meat or milk, but they felt that the presence of the plague was no fault of theirs and that the losses that must be incurred should be borne by those who would benefit—the general public, including the farmers. Now we have reached a stage which may confidently be called the turning point and from now on the loss from bovine tuberculosis may be expected to decrease at an ever accelerating rate.

The reason for this sudden change to a hopeful aspect is not far to seek. It is to be found in the fact that the problem is now looked upon as an economic one for the nation and the states to solve with the co-operation of cattle owners, and not one which the farmer should be forced by drastic legislation to solve for the country at his own expense.

The first definite step toward the new policy which promises to do so much for the live stock industry was taken a year ago last December during the International Live Stock Exposition at Chicago. At that time representatives of the United States Live Stock Sanitary Association and of pure-bred cattle breeders' associations adopted a set of rules and regulations to govern the accrediting of herds of pure-bred cattle and soon after the Bureau of Animal Industry approved them. A year later the rules were changed so as to include grade herds as well as pure-bred herds. The Bureau of Animal Industry issues

vidual herds in forty states and in some places efforts have been started to eliminate the plague from certain areas. Imagine a flow of buyers to those localities that are first able to advertise that every animal in all their herds is free from tuberculosis. It will be a monopoly worth having. Consider, also, what a stimulating effect will be produced on our foreign trade in live stock—which our breeders are earnestly hoping for—if only tuberculosis-free animals are sold to the buyers who are now combing our country for stock to replenish their herds.

The very fact that the government puts its stamp of approval upon herds that have come up to certain specifications is enough to stimulate some far-seeing breeders to clean out every vestige of tuberculosis, but there is even more encouragement available. In the last agricultural appropriation bill Congress provided that the United States may pay indemnity to the owners of cattle condemned on account of tuberculosis. The owner who submits to the supervision of the Bureau of Animal Industry will get one-third the difference between the appraised value and the salvage value of reactors, provided the state, county or municipality pays at least an equal amount.

What have these recent common-sense efforts accomplished? Considering that the accredited herd plan has been in operation nationally only a little more than a year and that the money offer by Congress has been in effect for an

magneto. Present-day magnetos, ever, are very reliable and not likely to give much trouble in this respect. In cases where there is good evidence that the magneto is at fault, it should be taken to an expert for repairs. An experienced person should never attempt to take a magneto apart. This job for an expert, or at least a good mechanic who is equipped with detailed instructions for undertaking the work. There are only a few things which may be done safely by an inexperienced person to remedy a defective magneto, and these may be done without taking it apart.

Sometimes too much oil will cause trouble by accumulating on the contact points in the breaker box. It is usually easy to examine these points and see if they have oil on them, are rough or pitted, or not opening properly. If they are with a little gasoline and wipe them. If rough or pitted, the points should be smoothed with a file made especially for this purpose. If such file is not available, a small knife blade may be used to remove the tiny projections which have formed on the points and to round off the burred corners. It is, however, to keep a suitable file handy for this work, for pitted points are not uncommon and unless properly polished up are liable to get into bad shape again very quickly. A gauge is usually furnished by magneto manufacturers to determine the proper distance between the points in the open position. The means of adjusting this distance vary with different makes of magnetos, but are usually apparent upon examination. The points should separate about one-fiftieth of an inch. An ordinary pin is about one-thirty-second of an inch in diameter and a fairly close estimate may be made using this as a criterion if no gauge is available.

There is one other thing which the experienced operator may do to the magneto, and that is to see that the commutator brush, which may be made of wire gauze or carbon, is clean. Sometimes dirt or oil will collect on this brush and interfere with the electric current. The location of this brush varies on different makes of magnetos, but it is always located where it can be removed and cleaned easily. Aside from these two things, however, the ordinary operator should not tinker with the magneto. There are many other things which may go wrong with it. These can be remedied only by an expert with special tools, etc., and it is extremely easy to do it harm. Simply removing the magnets without putting "keepers" on them—iron or steel washers to connect the poles—will materially weaken them, yet this is something the inexperienced person frequently does.

It is important that a waterproof cover be provided for the magneto, especially in the case of engines used outdoors, such as gas tractors, in order to protect the magneto from moisture and dust, as either of these is likely to cause trouble sooner or later. During the past few years many stationary gas engines have been equipped with low-tension oscillating magnetos. Some of these are mounted directly on the igniter block, and it is easy to test the spark by removing the block and tapping the oscillator with the means provided. In other cases it is necessary to remove the end of the wire attached to the igniter block and wipe it across the metal part of the engine, at the same time tripping the oscillator. It is necessary that the end of the wire leave the metal almost instantly after the oscillator is tripped, otherwise the spark will not occur. A little practice will make this test comparatively easy.

Treating Seed Potatoes

It is highly important that seed potatoes be treated to destroy the spores of the different diseases with which they are likely to be infected. Potato diseases are becoming more and more prevalent. Practically all the diseases that cause losses of stand, the wilts, light, black scurf, scab, etc., are carried by the seed. Any potato having a dry rot, a wet rot, or showing any blighting or blackening inside when cut, should be discarded, for while such a potato may not carry a disease organism the blackening shows that the potato has something the matter with it that makes it unfit for seed. Treatment of seed with formaldehyde or bichloride of mercury will do little good in these cases. There are two potato diseases carried

on the tubers which are easily seen. These will respond to treatment. The one is the "scab," and the other is "black scurf," or Rhizoctonia. The former is too well known to need description. Black scurf of Rhizoctonia has the appearance of flecks of dirt. If you are in doubt as to its identity, wash the potato thoroughly with a scrub brush. If these flecks still cling, it is the overwintering stage of the "scurf."

The following method of treating the seed for these two diseases is given by J. W. Blachly of the Agricultural College extension division:

Prepare a solution by mixing four ounces of corrosive sublimate, which can be secured from the local drug store, in thirty gallons of water. Powdered corrosive sublimate is preferred and should first be mixed with one quart of hot water, since this causes it to dissolve more rapidly. When completely dissolved add enough water to make thirty gallons.

Do not use metal vessels or containers for this solution, since it corrodes

metals. Barrels, wooden tubs, or concrete vats may be used. It is a deadly poison and must be kept away from the children and animals. It will not injure the hands. Treated seed is also poisonous and must not be eaten or fed to stock.

Place the uncut tubers in sacks and submerge in the solution for one-half hour. Remove, and drain the sacks, or spread the seed to dry, after which it may be cut.

The solution grows weaker rapidly from use, even to the extent of losing as much as one-fourth of its strength during a single use. The loss is greater when sacks instead of crates are employed for dipping and is greater in treating dirty potatoes than clean ones. It is therefore advisable to add one ounce of dissolved corrosive sublimate to each barrel, together with enough water to bring the solution up to the original volume, after each batch of potatoes has been treated. When this has been done four times, throw away the old solution and prepare a new one.

The same treatment will also get rid of the scab or the spores of other diseases that may be lodged on the potato.

Keeping Farm Accounts Pays

Farm business consists largely in knowing what and where your profits come from. One farmer who kept accounts last year, says F. S. Turner, county agent of Anderson County, was rather surprised to learn that twelve head of cows returned him but \$55 a head for cream sold, while 300 hens kept by the wife returned a total of \$532, or nearly \$2 apiece, for eggs sold alone. Another member who kept accurate records on his herd of twenty-five cows found that they averaged 240 pounds of butter fat during the year, or nearly two and a half times as much as the cows of the first man.

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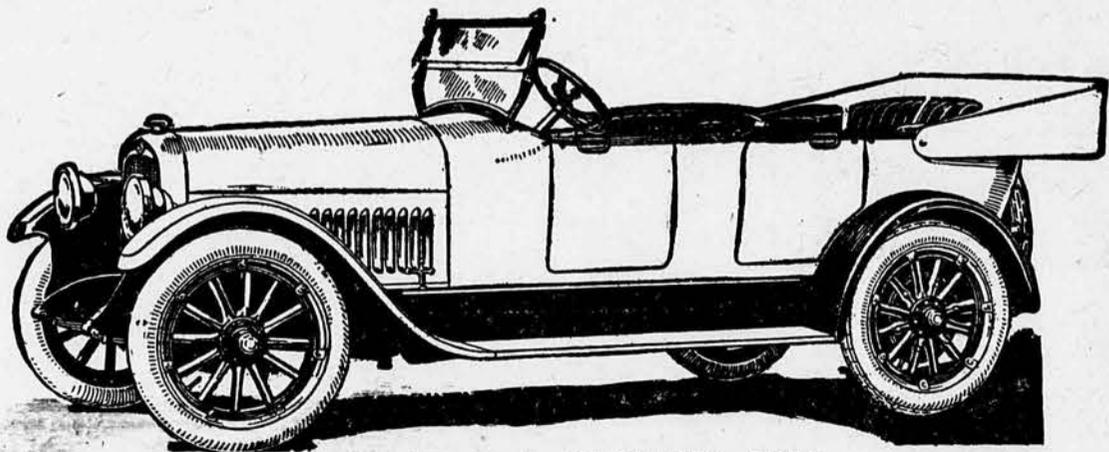
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Use a Stewart No. 9 Ball Bearing Shearing Machine. Price \$14. If your dealer can't supply you send us his name. Write for catalog.

CHICAGO FLEXIBLE SHAFT COMPANY
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Evergreens For Lawns, Hedges and Windbreaks
Get your Evergreens from an Evergreen Specialist. 55 years in business. Illustrated catalog free.
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Developing a Dairy Center

It is interesting to watch the growth of the dairy interests in Wyandotte County. Dairymen are buying pure-bred bulls and many of them have purchased pure-bred cows. A very fine thing about this improvement is the fact that practically all of these pure-bred animals are Holsteins. We do not mean necessarily that Holsteins are superior to other breeds of dairy cattle, but there is a very great advantage in a community being united in the breeding of one breed of live stock.

In the future those who are breeding high class stock will have surplus animals for sale. Buyers of dairy cattle are already coming to Kansas from Oklahoma, Texas, Colorado and New Mexico. These buyers like to go to communities where they can buy a carload of good dairy animals within a radius of a few miles. It will not be long until Wyandotte and Leavenworth counties will furnish such communities. Other communities are developing along similar lines.

Co-operative Wool Marketing

Wool growers of Kansas will find it to their best interests to pool their clips and make up carload shipments. I cannot urge this too strongly. If you have less than a carload in your county, it will pay you to pool with some other county, even though you have to pay local freight on a short haul to do so. I want to repeat here what J. L. Kyle of La Cygne, Kansas, reported at the annual meeting of our Kansas Sheep Breeders' Association in Manhattan. Mr. Kyle and his neighbors formed a local association or wool pool. They made a big saving in the purchase of sacks and twine and in shipping the wool to an approved dealer in Kansas City. The shrinkage on this entire carload was only fifty pounds and the price received was the most satisfactory of any reported.

At the annual meeting of the Kansas Sheep Breeders and Wool Growers' Association I was delegated to investigate certain complaints which had been filed with our association as to short weights or excessive shrinkage of wool shipped to the approved dealers in Kansas City and elsewhere. Up to this time I have about fifty complaints, and these, with one exception, reflect back on one firm. These complaints were accompanied by receipted freight bills from the railroad people as to weight and also by a sworn statement from the grower. Following is a list of a few of the wool growers having filed complaints with me regarding short weights: Sloan Crissman, St. John, Kansas, shipped 1,177 pounds and received returns on 878 pounds; George Hahner, St. John, Kansas, shipped 772 pounds, received returns on 722 pounds; L. B. Hayne, Garden City, shipped 4,998 pounds, received returns on 4,706 pounds; Alphonse Coe-man, Hoxie, shipped 1,650 pounds, received returns on 1,500 pounds; Earl Hunt, Winfield, shipped 195 pounds, received returns on 151 pounds; Alvah Souder, Newton, shipped 40 pounds, received returns on 33 pounds; J. A. Dennis, Ottawa, shipped 1,573 pounds, received returns on 1,451 pounds; 3-L Ranch Company, Coolidge, shipped 13,850 pounds, received returns on 12,134 pounds; H. E. Gillette, Ottawa, shipped 365 pounds, received returns on 296 pounds. Their total shipments aggregate what would constitute a carload if it had been pooled together. These shipments totaling 24,620 pounds at the local freight stations shrank 2,749 pounds in shipping to Kansas City before being settled for. Compare these figures with the statement of Mr. Kyle and you will see the gain in pooling together, aside from the saving on freight rates.

Now I am not in a position at this time to state the cause of so heavy a shrinkage on these local shipments. It might be attributed to various reasons. The firm complained of invariably came back at the shipper, in case he registered a complaint, about as follows: "What kind of scales have you out there? There is certainly some mistake in your weights. Send me certified scale tickets, etc. This shipment has been weighed four times in my warehouse on government approved scales and I know I am right."

With the support and co-operation of the War Industries Board, I hope to go into this matter deep enough to see every pound of this wool accounted for.

Pool your wool this season. Have your county agent handle the deal for you and when you are ready to sell there will be plenty of buyers ready to bid for it f. o. b. your station.

Sheep shearing will start about April 1 in this part of the state. I prefer to shear the farm flock early. If the mother ewe has parted with her winter coat she will not stay out in the cold rain and chill her lamb to death, but will be the first one to seek shelter. A fair price for shearing this year will be 12½ cents per head in lots of 100 or more and 15 cents per head for smaller flocks, including board. There seems to be plenty of help in sight at these prices.

Should any grower in the state have difficulty in securing shearers, advise A. M. Paterson, secretary, Manhattan, Kansas, or the writer, and we will try to supply you with help. Also advise us as to the number of sheep you have and the approximate number of sheep in your community. On the other hand, any sheep shearers who wish work in our state during April and May before range shearing begins, please list your names with either of us. Our service will be free and I want you to use it.

The Kansas Sheep Breeders' and Wool Growers' Association wishes to act as a clearing house, so to speak, for local associations and individual growers.

I wish to encourage the farm boys to take up sheep shearing. You will be surprised how quickly you can learn. A couple of weeks of shearing can be profitably put in each spring before the rush of farm work.—A. L. STOCKWELL, Larned, Kansas, president Kansas Sheep Breeders' and Wool Growers' Association.

Holstein Association Sale

As fine a lot of dairy cattle as ever passed through a sale ring in Kansas were sold in the Holstein Association sale held at Topeka last week. This association sale has become a semi-annual event, and is doing much to promote better dairying in Kansas and the distribution of good dairy cattle. The first sale was held at Topeka a year ago. Next fall an association sale will be held in Wichita.

No phenomenal prices were paid at the sale just held, but the animals offered brought very satisfactory returns. Breeders generally were pleased with the results. The average of sixty-nine cows and heifers and nine bulls was \$340. The top cow was Tredico Herbert Oak Payne Bell, a two-year-old consigned by W. R. Crow of Hutchinson, and after spirited bidding sold to W. R. Stubbs for his Mulvane dairy farm at \$800. The next highest cow of the sale was the six-year-old, Verona Pontiac Johanna Inka. This cow was purchased by Ben Schneider, of Nortonville, who for the past two years has been president of the association. The price paid was \$605. E. S. Engle & Son, of Abilene, paid \$400 for Lady Maachen De Kol Korndyke, consigned by A. S. Neale. The top bull of the sale was Blacross Colossus Ormsby, a yearling consigned by Louis C. Rohlifing and sold to L. L. Grossnickle of Onaga, who was one of the heavy buyers at the sale. A. F. Myers, of Ozawie, bought the yearling bull, Sir Houwtje Maid Canary, consigned by Harry Mollhagen, for \$500. Ben Schneider bought one of the cows of the Mollhagen consignment for \$500. W. H. Mott, of Herington, Kansas, paid \$500 for Carlisle Korndyke Duchess Beauty, a cow consigned by F. J. Searle.

At the sale of A. B. Wilcox & Son on the day following, the bidding was more spirited at times than at the association sale. Seventy-one animals were sold at an average of \$268. The sensation of the sale was the selling of the four-year-old cow, Abilene Jewell Kalmuck, to Louis Koenig of Solomon for \$1,060. The bull calf from this cow, only a few days old, was sold to Eugene Swinehart of Mulvane for \$235. Mr. Swinehart also bought two cows, sisters, for \$425 apiece. These cows were consigned to Mr. Wilcox's sale by J. M. Chestnut & Sons and have been exhibited at many fairs and dairy shows. The second highest price of the sale was \$610, paid by Samuel Carpenter of Oswego for the eight-year-old cow, Glen Kalmuck.

The Holstein breeders of Kansas should be well satisfied with the interest taken in this breed, as evidenced by the new men starting in as breeders and the prices being paid for foundation stock.

Sheep Association Formed

Johnson County has just organized a sheep growers' association as a result of a meeting of sheepmen called by Harry S. Wilson, county agricultural agent. Every section of the county was represented. The most important action taken was the decision to arrange to pool the wool at a central point and invite buyers to come and bid on it.

C. G. Elling, sheep specialist of the extension division of the Kansas Agricultural College, was present at the meeting and gave a talk on the benefits to be derived from an organization, mentioning pooling the wool, increasing the number of small flocks, assisting the small grower, forming a shearing circuit and putting on an educational campaign to encourage the more general consumption of mutton.

His suggestion met the enthusiastic approval of those present, and an organization was completed. H. J. Wadell was elected president and Mr. Wil-

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Uncle Sam's Fighting Boys Wear
IRONCLAD KHAKI
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You men and women of his "home guard" should wear this patriotic economy cloth, too. It's fast color and wears like leather.
Shirts, Pants and Overalls
made of the genuine Ironclad Khaki (the kind Uncle Sam uses) carry the yellow "army" label, like the above. Look for it and Guarantee Bond in the garment before you buy.
Write today for free samples of Ironclad Khaki Cloth, and Miss Ironclad Khaki, the kid glove finish ladies' overall cloth. Garments on sale by dealers—everywhere.
FRANKLIN MANUFACTURING CO.
Manufacturers of Cloth Only
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Deafness
Perfect hearing is now being restored in every condition of deafness or defective hearing from causes such as Catarrh, Deafness, Ruptured Eustachian Tubes, Thickened Drum, Stiffening and Hissing Sounds, Festered, Wholly or Partially Destroyed Drums, Discharge from Ears, etc.
Wilson Common-Sense Ear Drums
"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices which the wearer easily fits into the ear where they are invisible. Soft, safe and comfortable. Write today for our 125-page FREE book on DEAFNESS, giving you full particulars and testimonials.
WILSON EAR DRUM CO., Incorporated
275 Inter-Southern Bldg. LOUISVILLE, KY.

Real Estate For Sale
SACRIFICING well-improved 700-acre farm, 2 miles out, ideal home, 260 wheat half with sale, possession now, some for spring crop, fenced, cross fenced, every acre tillable, best buy in county, carry \$10,000. Be quick, see or wire
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5c an Acre Cash Texas School Land for sale by the state at \$2 per acre; 5c per acre cash and no more for 40 years, but 3 per cent interest. Send 6c postage for further information.
INVESTOR PUB. CO.,
Desk 4 San Antonio, Texas

son, the county agent, was elected secretary. A committee on education was appointed, composed of R. O. Jones and Fred Lorimer. The association will meet once a month.

In treating potatoes for scab and other diseases, use four ounces corrosive sublimate in thirty gallons of water, soak seed thirty minutes.

GABEL'S latest improved (2 sizes in one) **FIG FORCEPS** with patent spring cable loop. Deposit \$5.00
20,000 Gabel Forceps sold. Ref. First Nat. Bank. Agents wanted.
payable to us after 30 Days' Trial. Send deposit certificate with your order. **GABEL MFG. CO., HAWKEYE, IOWA.**

Feeding Experiments

(Continued from Page One)

pasture crops, including Sudan grass, sweet clover, brome grass and redtop.

Shorthorn Breeding Experiment

A test which is attracting a great deal of attention is that known as the Shorthorn breeding experiment. This has been under way several years. The Kansas station is co-operating directly with the Bureau of Animal Industry of the Department of Agriculture in this test. Twenty Shorthorn cows were purchased for the experiment, these to serve as foundation animals. In buying these cows the requirement was made that every cow purchased must have produced an exceptionally good calf judged strictly from the beef standpoint, and further, as far as it was possible to determine, every cow was to be a good milker. The observant beef cattleman knows that a breeding beef cow must produce plenty of milk to grow a good calf. There has been some confusion as to the type of cow which will produce the best beef steer. There is a relationship between milking qualities and beef production which has not been fully understood and particularly as to the type of cow that will consistently produce offspring that will develop into good beef animals. Every cow purchased had a well developed udder and since the beginning of the experiment, which was planned to continue twenty years, the cows have all been milked and careful records kept. The calves have been placed on nurse cows.

The average annual milk production record of seven of these Shorthorn cows has been 8,000 pounds, and they have also produced calves that have won in the beef classes at the largest shows in the country. Of the heifers retained in the herd to replace the original cows all are being required to show good milk production as well as the production of a good calf. No beef breed should be permitted to run down in milk production, and this test with Shorthorns is being watched with a great deal of interest by beef cattle men generally, for all are anxious to learn to what extent a cow can be increased in milk production without retrograding in capacity for beef production. It also may give some new ideas as to the points to observe in selecting the females of a beef breeding herd.

Some tests are also being made in developing pure-bred beef calves, comparing the results from hand feeding, rearing on nurse cows, and running with their own mothers.

Visitors at the cattle feeders' meeting should not fail to look over all the experimental work with the various classes of farm animals. Remember the date—May 10—and plan to attend this important meeting.

Combine Pounds with Quality

When the feeder goes to market he finds that the premium prices are offered for the quality which his consignment may or may not carry. He observes a very considerable range between the values offered for the steers, or whatever the shipments represent, that have the something called quality, and those that lack this desirable possession. If he follows this up he will find that it is the presence of good breeding that has created this quality. He will find that the larger the percentage of good breeding, the more evident the quality. The pure-bred sire has played his part, and if there are several generations of pure-bred sires of the pure-bred standard the quality will be all the more pronounced.

Then there is the matter of weight that increases the cash return. This harks back to the pure-bred sire also, and when this weight is combined with quality there is a double advantage to the seller as he receives more per pound and more pounds. It is frequently the case that all of the profit is wrapped up in these added pounds and the quality. Many a shipper has journeyed homeward minus a single dollar of profit, in fact often sustaining an actual loss, just for the lack of this quality and the extra pounds. It is an old story—and a true one.

There are times when a feeder can put in a load or more of inferior bred cattle and make a profit, but that is because he bought them low—too low for the producer's welfare. It is the producer who is chiefly concerned about the presence of quality and adequate weight. He is the one who profits when these are present and loses when they are lacking, and he is the one who can pro-

vide both. It is up to the producer to see that his standard corresponds with the requirements of the market. It costs money now to grow an animal for the market whether as baby beef or at any older age. There must be a response on the part of the animal that will offset these increased costs. This responsiveness is only assured by an approach to the standard of the pure-bred which comes through the continued use of pure-bred sires. There is nothing theoretical about this. The lesson is taught every day on every important market. There is only one way to safeguard the producer and that is in the adoption of higher standards, and the nearer that standard approaches the pure-bred type the more certain the profit of the grower.

Count the cost of things, Mr. Cattleman, that have a part in the maintenance of your herd and the finishing of your heaves. Whether it is feed, labor, land, or any other item—it is higher.

Not long ago a load of well-bred Shorthorn steers sold on the open mar-

ket at Chicago for \$20.50 per hundred-weight because they were well bred and adhered to the well bred type. Because of this they finished well. If these were marketed by their producer there is no denying that he had a considerable profit. Previous to that a load or two of Montana range-bred steers went onto the Chicago market at \$18, a record range price. They were by pure-bred Shorthorn bulls and had both the weight and the quality desired. They both count. They are the sources of profit. It takes them both to make adequate returns. It calls for the pure-bred bull that will supply both.—FRANK D. TOMSON, American Shorthorn Association.

Uses for Casein

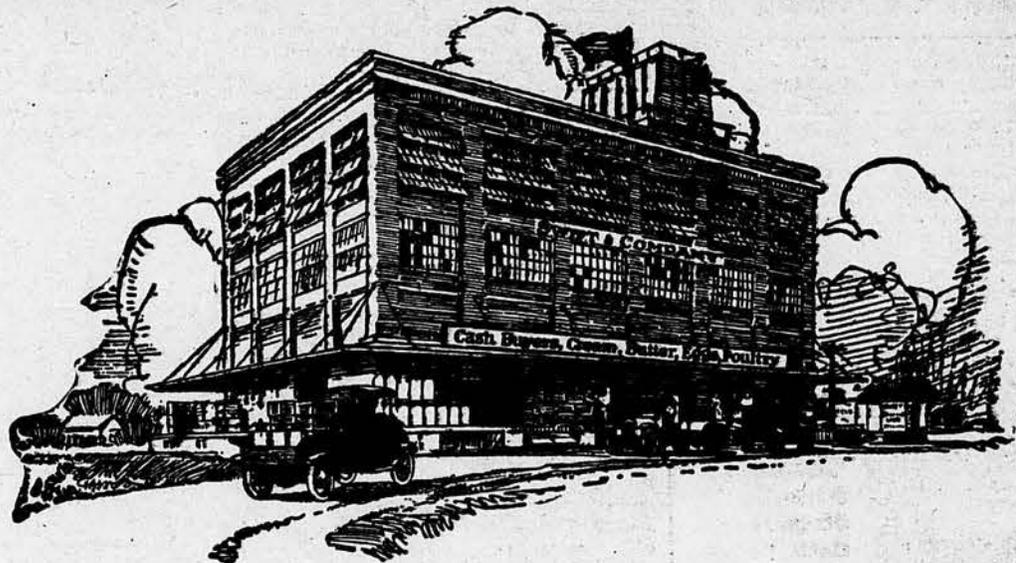
Scientists at the Forest Products Laboratory, Madison, Wisconsin, recently discovered that the casein of milk makes probably the best glue for aeroplane wings. The paint from casein dries quickly, is as smooth as enamel and in

a few hours becomes impervious to weather conditions.

The four principal uses of casein, which is a product of skim milk, are as follows: The preparation of plastic masses and galalith as a substitute for horn, ivory, celluloid; as a painting material; as a mucilage and cement, and as a dressing and color-fixing medium in textiles.

It is used in plastic masses for the making of combs, collar buttons, imitation linoleum, leather and bone and electrical insulating material. Galalith, meaning "milk stone," is made from casein in the form of imitation marble, colored furniture decorations to replace colored glass, electrical insulations, etc.

The use of casein in certain paints and varnishes has already been mentioned, its advantage being that it will neither crack nor peel off. Casein in some form or other is used as a dressing for practically all textiles found on the market, especially in fixing colors and pigments.



Why does Swift & Company sell poultry, eggs, and butter?

For the same reason, Mr. Farmer, that your R. F. D. postman now brings your packages as well as your letters.

He used to bring only letters; but since he makes his rounds every day and has the necessary rig or "fivver," Uncle Sam decided to use more fully his time and equipment by handling parcels.

Years ago Swift & Company built up a nation-wide distributing organization, including thousands of refrigerator cars and hundreds of branch houses with refrigerator equipment, for the marketing of meats. And none of this equipment was being used to maximum capacity.

What more natural than that Swift & Company should take on other perishable products, such as poultry, butter, and eggs?

Also—those products are sold by the same salesmen that sell our meats; they are hauled in the same delivery wagons; the same clerks make out the bills; and they go to the same class of retail dealers.

Also—these retailers are equipped to handle perishable products and want to be able to buy poultry, butter, and eggs, of us. And consumers like to buy them from the same retailer that sells meat.

As a result, our vast organization is more economically utilized—and at the same time we render a valuable service to you, Mr. Farmer.

We make the cash market for your poultry, butter, and eggs more steady.

We broaden the outlet for your goods, because our organization reaches every important consuming center in the country.

Swift & Company, U. S. A.

Established 1868

A nation-wide organization owned by more than 25,000 stockholders



Classified Advertising

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

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

AGENTS WANTED

AGENTS—MASON SOLD 18 SPRAYERS and Autowashers one Saturday; profits \$2.50 each; square deal; particulars free. Rusler Company, Johnstown, Ohio.

AGENTS—MAKE A DOLLAR AN HOUR. Sell Mendota, a patent patch for instantly mending leaks in all utensils. Sample package free. Collette Manufacturing Co., Dept. 103, Amsterdam, N. Y.

SEEDS

EXTRA GOOD RECLEANED SHROCK kafir seed, \$3.50 per bushel. Sample on request. J. P. Nachtigal, Buhler, Kansas.

YELLOW DENT GRADED SEED CORN, \$2.75 per bushel. Send sacks with order. Nick H. Muller, Howells, Neb.

SEED CORN, \$3.00. NINETY-BUSHEL kind. I return all cash unless satisfied. Wiltse, Rulo, Nebraska.

FOR SALE—RECLEANED, HIGH GERMINATION test, Darso seed, \$3.00 per bushel. Sacks extra. Silver Seed Store, Winfield, Kansas.

500 BUSHELS CHOICE SELECTED SEED corn, Reid's Yellow Dent and Big 4 Early White, \$3.50 per bushel. Sacks free. Archdale Farm, Fremont, Nebraska.

FOR SALE—KAW VALLEY WHITE Seed Corn. Large, medium, late maturing. Test 98%. \$2.50 per bushel. Ear corn only. C. V. Cochran, Route 6, Topeka, Kansas.

GOOD PINTO BEANS, RECLEANED, \$7.40 per cwt. We ship from Lamar. We pay freight on car load lots. Also black amber cane seed, \$3 per cwt. In new bags. J. W. Hoover, Joycoy, Colorado.

SWEET POTATO AND TOMATO PLANTS Standard varieties, 100, 55c; 1,000, \$4.00; 10,000, \$35.00. I pay express and postage. Plants ready April 20. C. W. Sheffer, Box 33, Okmulgee, Okla.

HARDY OPEN-GROWN PLANTS—NOW shipping leading varieties sweet potatoes, tomatoes, postpaid, 500, \$2.00; 1,000, \$3.50; hot and sweet peppers, eggplant, beets, 500, \$2.50; 1,000, \$4.75. Cabbage, Bermuda onions, 500, \$1.25; 1,000, \$2.00. Write or wire for catalog and wholesale prices. Order early and notify us when the ship. Liberty Plant Company, Crystal City, Texas.

DWARF AND STANDARD BROOM CORN seed, \$7.00; Red Top and Early Golden cane, feterita, Schrock kafir, Darso, Hegari, common millet, \$8.00; Amber, Orange and Sourless cane, cream and red dwarf and standard maize, dwarf and standard kafir, \$5.50; alfalfa, \$18.00; unhulled sweet clover, \$21.50; hulled, \$26.50; Sudan, \$15.00; all per 100 pounds, freight prepaid; prepaid express, \$1.00 more. Claycomb Seed Co., Guyton, Oklahoma.

CATTLE.

FOR SALE—GRADE HOLSTEIN COW and heifers, good producers. Tuberculin tested. Edwin Nelson, Superior, Nebraska.

FOUR PURE-BRED HOLSTEIN BULL calves, Korndyke blood, and one service bull, Segia blood. Come early and get your choice. D. L. Higgins, Winona, Kansas.

FOR SALE—HOLSTEIN AND GUERNSEY calves, selected from the best herds, nicely marked, good size, laid down at your station at thirty dollars each; express paid. Fred Dutcher, Whitewater, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked, \$25, crated and delivered to any station, express charges paid here. Send orders or write, Lake View Holstein Place, Whitewater, Wisconsin.

THE STRAY LIST.

TAKEN UP—BY L. D. CONVERSE, OF Odee Township, Meade County, Kansas, on November 27, 1913, one red cow, brand on left thigh. W. W. Pressly, County Clerk.

HONEY.

HONEY—VERY FINE ALFALFA, 120 lbs. net, \$25.00; 60 lbs., \$13.00. Bert W. Hopper, Rocky Ford, Colo.

DELICIOUS EXTRACTED HONEY ON approval quality guaranteed. Thirty pounds, \$7.85; sixty pounds, \$14.90; 120 pounds, \$29.75. Sample, 15c. Wesley Foster, Producer, Boulder, Colorado.

DELICIOUS, LIGHT-COLORED, EXTRACTED honey gathered by our own bees from alfalfa and sweet clover. Guaranteed pure. Write for prices. Will accept Liberty Bonds at par in payment for honey. Frank E. Drexel, Crawford, Colorado.

HORSES AND MULES.

FOR SALE—FIVE GOOD JACKS, SEVEN Jennets, 3 to 6 years. Joe Fox, Greeley, Kansas.

REGISTERED PERCHERON STUD COLT coming two years old, black-gray, weight 1,550. Will make a 2,200-pound horse. Well proportioned with fine action. Priced for a quick sale at \$275. P. A. Wempe, Seneca, Kansas.

MISCELLANEOUS.

ONE-MAN SLING. CHANGES HEAVY set hay racks. F. Lovering, Fremont, Neb.

DOGS.

AIREDALES, COLLIES AND OLD ENG- lish Shepherds. Pups, grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

REAL ESTATE.

THE CROPS PAY FOR THE LAND. Good proposition for farmer of small means. Land in Southwest Kansas and Eastern Colorado. For particulars write Allen & Allen, Topeka, Kansas.

SOUTHWEST KANSAS IS DEVELOPING fast. Farmers are making good profits on small investments. It is the best place today for the man of moderate means. You can get 160 acres for \$200 to \$300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6%—price \$10 to \$15 an acre. Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy purchase contract. Address W. T. Oliver, Santa Fe Land Improvement Company, 405 Santa Fe Bldg., Topeka, Kansas.

FARMS WANTED.

I HAVE CASH BUYERS FOR SALEABLE farms. Will deal with owners only. Give description, location and cash price. James P. White, New Franklin, Missouri.

WANTED

WANTED—100 WHITE ESKIMO-SPITZ puppies about six weeks old. Brockway's Kennels, Baldwin, Kansas.

WANTED—COMPETENT MAN AND wife for general work on a grain and stock farm, \$800 per year and some extras. Do not apply unless you can qualify. L. C. Walbridge, Russell, Kansas.

SEEDS WANTED—SEND SAMPLES OF high grade field seeds. Just now we could take on some more good alfalfa, also timothy. The D. O. Coe Seed & Grain Co., Topeka.

ADDRESS WANTED.

MR. Y. C. McNETT, KANSAS, POST- office unknown: I have an overseas letter for you. Betta Needham, Lane, Kansas, Chairman Lane Branch, Franklin County Chapter, A. R. C.

FARM LANDS WANTED.

WANTED—TO HEAR FROM OWNER of good farm for sale. State cash price, full particulars. D. F. Bush, Minneapolis, Minn.

MINNESOTA FARM LANDS FOR SALE.

ONE OF THE BEST STOCK COUNTRIES on earth. Good grass, good soil, good water, plenty of rainfall. In Central Minnesota. Get our list of farms. Thorpe Bros., 1-206 Andrus Bldg., Minneapolis, Minn.

To Preserve Eggs

There is no process of preserving eggs that will retain the fine flavor of newly-laid eggs, so that they can be sold later as such. Yet for cooking, when the supply of newly-laid eggs is limited, preserved eggs meet the demand. None but fresh eggs should be packed. Eggs to be packed should come from hens that have no male with them. They should be perfectly fresh and clean. Eggs that require washing are not so good to pack. A dry cool cellar is the best place to keep them.

The use of water glass to preserve eggs seems to be more simple and effective than any other method. To ten quarts of water that has been boiled add one pint of water glass. Put this in a jar or tub, and add the eggs as you gather them daily. Always have at least two inches of solution over the eggs.

Don't throw away celery tops. Use them in vegetable soups, or if you do not care to use them at once, place them on a pan in the oven and let them dry. When thoroughly dry they will crumble to a fine powder which is very good for seasoning. Parsley may be dried in the same way.

With the first warm days the large black houseflies are appearing and laying their eggs. Now is the time when it does most good to wage a relentless campaign against them. Every one that escapes you now will mean millions later. When you hear one buzzing on the window pane, drop whatever you are doing and get rid of him.

THE HOME-MAKER'S FORUM

ETHEL WHIPPLE, Editor

Letters from readers are always welcome. You are urged to send in helpful suggestions, to give your experiences, or to ask questions. Address the Editor of this Department.

Story Telling for Happiness

IF CHILDREN are to be well and strong and become efficient men and women, they must be given a happy childhood, says Carolyn Sherwin Bailey, author of "Tell Me Another Story," "What to Do for Uncle Sam," etc. "Tell them stories," she advises, "that will help them to create their own joyousness."

The fairy tale of Dumps, which follows, was written by Mrs. Bailey for the U. S. Bureau of Education as an example of this type of story. It suggests happiness through keeping cheerful.

What Happened to Dumps

Once upon a time there was a queer little elf named Dumps who lived all by himself in a dark little house down in the valley. Ever since he could remember, things had gone wrong with him.

He shivered in the cold and kicked the coal bucket when the fire wouldn't burn. He howled when he stumbled over his own dinner pots that he had left sitting in the middle of the floor, and he stood in his front door and scowled when the other happy elves went by without speaking to him.

He and his family had lived like that for years. When any elf wanted to describe something very sad he would say it was "Down in the Dumps," and so Dumps went on without a single happy day.

But the elves decided, suddenly, to give a party. Oh, it was going to be a very jolly party indeed, and Dumps heard about it. Almost every elf who passed was whistling, or singing something cheerful. And some of them were carrying their best green suits to the Wood Fairy's house to be pressed. And when Dumps heard about the party, he cried so loudly because he knew that he wouldn't be invited, that the Wood Fairy heard him. The noise disturbed her so much that she went right down to Dumps' house to see what was the matter with him now.

"Tell me all about it from the beginning, my dear," she asked poor little Dumps.

"I can't see the sunshine!" Dumps howled.

"Of course you can't," said the Wood Fairy. "Your windows are dirty. Get some nice spring water in your little pail and wash them."

Dumps had never thought of doing that. When he washed the windows the sunbeams streamed in like a golden ladder.

"Is there something else the matter?" the Wood Fairy asked.

"My fire won't burn, even though I kick the coal bucket every day," Dumps sobbed.

"Well, do try blowing the wire," the Wood Fairy suggested.

Dumps had never thought of doing that. His bellows were stiff, but he blew them very hard, and crackle! there was a nice bright fire and his tea kettle began to sing.

"Is that all?" asked the Wood Fairy.

"Oh, no!" Dumps sighed, "the other elves are giving a party and I am not invited."

"It is for all the elves and you don't have to be invited," the Wood Fairy said. "Stand up straight and let me brush your suit. Now run along, my dear."

So Dumps started up the hill to the party, laughing all the way, for he just couldn't stop. You see he had so many years of being one of the Dumps to make up for. He laughed until all his wrinkles were gone and he was puffed out with happiness. He started bees buzzing and grasshoppers fiddling and crickets chirping, and a whole crowd of yellow butterflies flew along with him.

"Who can this new, fat, cheerful elf be?" asked all the other elves as Dumps arrived at the party, turning a double somersault into their midst. "We are all here except Dumps, and of course this isn't he."

Then Dumps showed them how he could turn back somersaults and make

a see-saw out of a rush leaf. He taught them how to play baseball with white clover heads, and how to make a swing of braided grasses. He surprised himself with all the good time he was able to think up.

"Of course, this isn't Dumps," the other elves decided. "His name must be Delight," and Dumps never told them their mistake, for it wasn't really a mistake at all. Now, was it?

Good Lines in Dressmaking

The lines of one's clothes are probably the most important factors in making them attractive, suitable or otherwise. The color, materials and workmanship of a dress may be perfect, but if the lines are not suited to the person's figure, it does not give a pleasing effect.

It has been said many times before, but will bear repetition, that it is the unalienable right of every woman to make herself look as well as possible. If she is too short or too tall she need not accentuate that quality, but she should modify it. Similarly if she is too thin or too stout she may make herself appear more of an average size. Following are some hints which will be useful in planning a dress:

1. Vertical lines increase the height.
2. Unbroken lines increase the height.
3. Slanting lines make the part toward which they slant look larger.
4. Tunics which are long in front and short on the sides make the figure seem shorter.
5. Tunics which are longer on the sides than in the front make the figure look taller.
6. Broad stripes always give a widening effect.

Fullness at Waist Line

For broad-shouldered persons, draw the gathers toward the centerwaist.

For narrow-shouldered persons, spread the gathers out. This gives a straighter effect and broadens the appearance of the shoulders.

Girdles and Belts

Consider the height, size of the person, and relation to other lines and length of waist in choosing the style of girdles or belts.

Shaping a girdle lengthens or shortens the effect. If pointed at the top of the front, it shortens the waist line. If pointed at the bottom of the girdle, it increases the length of waist, and is, therefore, good for a short-waisted person.

The waist is made smaller by breaking its line. That is, making a belt in sections will make the waist appear more slender.

A wide belt should be made for tall persons, and a narrow one for stouter figures.

The position of the belt affects the height. If one wishes to shorten the waist, raise the belt, or vice versa. The normal person should usually wear the belt at the normal waist line.

Collars and Yokes

The collar depends upon the shape of the face and other lines of the dress. If the face is full, a pointed collar gives a longer effect. Square collars give a rounder look to the thin, long face. For a fat face, use a collar that rolls. This covers up the sides and makes the neck appear thinner.

Angular persons should wear curved yokes, or those that are pointed. Stout persons should avoid wearing yokes as much as possible, and when used they should be straight.

Short-Waisted Figures

Low waist lines, V-shaped necks, tucks or plaits, vests continuing below the waist line, and use of narrow shaped belts are the principal ways in which the waist may be lengthened.

Narrow and Sloping Shoulders

For narrow shoulders, it is well to extend the materials over the armseye, and berthas give a broadening effect.

People with sloping shoulders should always avoid drop sleeves or kimono effects. Straight lines, such as yokes,

may be used advantageously by the slop-shouldered person.

Full Bust, Large Hips

Long vests and V-shaped necks lengthen the line, and thus give a more slender appearance. Plaits placed nearer to center than to sleeves break the effect.

Straight lines, plaits, slightly shaped panels, make the hips appear less large. Yokes should be avoided by a person with large hips.

If these suggestions are followed, the home-made dress may obtain that effect of good proportion which marks the work of a skilled seamstress.

Originality—Minus

There was once a barrel full of ordinary tacks. For practical purposes they were all alike; each made in the same way, identical in form, substance, and color.

There was one exception. This tack had been caught in the machine, and came out minus a point and head.

And the simple, little ordinary tacks, which didn't know any better, worshipped the odd one.

"He is so different," they said, "so original."

But when the time came for them to be put into service, the workman who picked out a handful noticed the headless tack.

When the test came, it failed because of its originality.

It is good to be original, but be careful you don't lose your head and become pointless.

Get out of the ruts and grooves if you can find a better part of the road, but remember that the ruts in some roads are the smoothest places and if you want to get anywhere you must stick to them.

A man who could invent a machine to make ten bricks while the rest of the world was making two would be original in a logical, useful way.

A man who invented a machine to make ten bricks in the same time that came out in all kinds of odd sizes and shapes, would be even more original—but in an absurd way.

It is better to be ordinary in a good way than to be original in an absurd way.

It is much better, however, to be original in the good, true sense, than to be absurdly ordinary.

Most genius is originality—so is most madness.—Personal Efficiency.

The Spirit That Wins

Genuineness, fairness, magnanimity, and a capacity for burden-bearing are four essential elements of "the spirit that wins," as analyzed by James G. K. McClure, president of McCormick Theological Seminary of Chicago in a baccalaureate sermon preached at Rice Institute last spring.

"If you go to Naples, Italy, you will find men carrying upon their heads great baskets of grapes. Notice them. The burden causes them to stand erect, the shoulders are thrown back, they watch their step. It is burden-bearing that brings a man to his development, to his steadiness, and to his joy.

"Some years ago I was on my way to Richmond, Virginia, and along the line of the Pennsylvania Railroad the train stopped at a cross-roads station. As I looked out of the window I saw a laboring man (the day was drawing toward evening) pushing his heavy wheelbarrow up a hill toward his home. His brow was furrowed, his form bent. He looked like a worried man. As I

was watching I saw his two little children, clad in their cleanest and brightest clothes, come around the corner of the hill, burst upon him with gladness in their eyes, and jump into the barrow. Immediately the man straightened himself up with a new elasticity and a new strength. His burden was his refreshment and his joy.

"Yes, it is only when in life the superman becomes the subman, getting under life's burden and spirit, and later in deed, that he preserves his strength, secures his equipoise and develops progressive power. It is very noticeable that the heroes of our hearts, continuing as such year after year, are always life's burden-bearers. In due time every Napoleon must give way to a Pasteur. Admiration for the self-centered spirit fades, but admiration for the spirit of the burden-bearer never increases."

Height of Table or Sink

Stooping over a table or sink which is too low is very tiring, and working at a table which is too high is inconvenient. The level of the working sur-

face should be adjusted to the height of the woman who is to use it. For a woman four feet ten inches tall the most convenient height of table, sink, or ironing board, according to home economics experts, has been found to be twenty-seven inches. The woman four feet eleven inches in height requires a table twenty-seven and one-half inches high, and the woman of five feet a table of twenty-eight inches. To find the proper level of the working surface for a woman above five feet in height, add one-half inch to the height of the table for each additional inch of the worker's height. A woman five feet four inches tall, for instance, should have a table twenty-eight inches high, while for the woman whose measures five feet six inches the proper elevation of the table is thirty-one inches.

Cheese and Nut Salad

Cut fresh cream or domestic cheese in tin cubes. Mix with it about twice as much of finely cut celery and some broken nut meats. A few raisins, cut in half, cut figs or dates, or a little chopped green pepper or sliced cucumber pickle, may be added if desired. Serve

on lettuce leaves or shredded cabbage, with a generous spoon of dressing.

Spice Cake.

- 3/4 tablespoonfuls hardened vegetable fat
1/2 cupful sugar
1 egg
1/2 cupful corn syrup
1/2 cupful milk
1 cupful flour, plus 1 1/2 table- spoonfuls
1 1/4 teaspoonfuls baking powder
3/4 tablespoonfuls chopped citron
1/2 cupful raisins, cut in half
1/2 teaspoonful cinnamon
1/2 teaspoonful cloves
1/2 teaspoonful nutmeg

Cream fat; add sugar gradually, syrup, egg well beaten; mix and sift dry ingredients; add alternately with milk to first mixture. Add raisins, which have been rolled in a little of the flour, mixing them through the cake thoroughly. Bake about thirty minutes in a moderate oven—about 350 degrees Fahrenheit.—New York City Food Aid Committee.

Kneel, little laddie, at my side; there's no defense like this, in childish trust; and— An evening prayer in childhood trust; and— let him scoff who may— A dally prayer to God above, a gentle mother's kiss Will keep my little laddy safe, however long the day. —Margaret E. Sangster.

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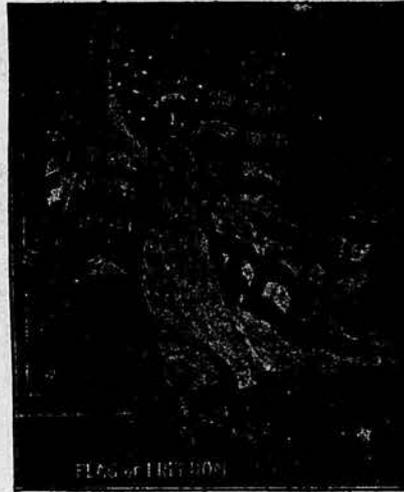
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EGGS FROM PURE-BRED LIGHT Brahmans. Setting of fifteen, \$1.25; 100 for \$7. Albert Reetz, Tobias, Nebraska.

LIGHT BRAHMA EGGS, \$2.50 AND \$3.50 per fifteen eggs; \$4 and \$6 per thirty eggs. Geo. W. Craig, 2031 Wellington Place, Wichita, Kansas.

LIGHT BRAHMA WINNERS IN THE large shows for years, few as good, none better. Fifteen eggs, \$1.75; hundred, \$7. Special mating, \$3 per fifteen; thirty, \$5. Mrs. Oscar Felton, Blue Mound, Kansas.

WYANDOTTES.

SILVER WYANDOTTE EGGS—FIFTEEN, \$1.75; fifty, \$4; hundred, \$7. Mrs. Edwin Shuff, Plevna, Kansas.

WHITE WYANDOTTE EGGS—FIFTEEN, \$1.50; hundred, \$5.75. Stephenson Bros., Cawker City, Kansas.

WHITE WYANDOTTES—BIRDS DIRECT from John S. Martin. Eggs, \$2.50 and \$5.00 per fifteen. L. A. Moors, Hiawatha, Kan.

ROSE COMB WHITE WYANDOTTE eggs from good laying strain. Fifteen, \$1.25; hundred, \$7. A. H. Fry, Paxico, Kansas.

PRIZE WINNING PARTRIDGE WYANDOTTE eggs, \$1.00 fifteen, \$8 hundred. E. N. Montgomery, Dennis, Kansas.

WHITE WYANDOTTE EGGS FROM MY famous show and laying strain, \$3.50 for forty-eight, prepaid; \$7 hundred. S. Peltier, Concordia, Kansas.

EGGS—WHITE WYANDOTTES, KEELER strain. Utility, \$1.50 fifteen, \$4 fifty, \$7 hundred. Pen extra good, \$2 fifteen. Mrs. M. M. Weaver, Newton, Kansas.

QUALITY ROSE COMB WHITE WYANDOTTES, great winter laying strain. Eggs, fifteen, \$1.75; thirty, \$2; fifty, \$4.50; hundred, \$8. Satisfaction, safe arrival guaranteed. Garland Johnson, Mound City, Kan.

WHITE WYANDOTTES—THE WORLD'S greatest laying strains. Eggs, fifteen, \$2; 100, \$9, prepaid. Farm raised. Females mated with males from trap-nested hens with annual records of 227 to 272 eggs. H. A. Dressler, Lebo, Kansas.

BUFF WYANDOTTE EGGS—VERY beautiful, high class, Gold-Dust strain; results of ten years careful breeding for type, color and eggs. \$2 per fifteen, \$5 for fifty, \$9 per hundred. Address Nettie M. Ferguson, Route 5, North Topeka, Kansas.

ORPINGTONS.

SINGLE COMB BUFF ORPINGTON eggs, \$6 per hundred. Mrs. Henry M. Schumaker, Clifton, Kansas.

EGGS FOR HATCHING FROM PEN OF pure-bred S. C. Buff Orpingtons, \$2.50 per fifteen. W. Knop, Preston, Kansas.

POSTPAID BUFF ORPINGTON EGGS—Blue ribbon. Pen, \$3.50 fifteen; range, \$2. John Oiler, Adrian, Mo.

SINGLE COMB WHITE ORPINGTONS—Blue ribbon winners, \$3 and \$5 for fifteen eggs. Few choice cockerels and pullets. H. M. Goodrich, 712 Topeka Ave., Topeka, Kan.

SINGLE COMB BUFF ORPINGTONS—Mart strain. Eggs, \$1.50 fifteen, \$5 sixty, \$7 hundred. Mrs. Olive Carter, Mankato, Kansas.

STRICTLY PURE-BRED SINGLE COMB White Orpington and Rose Comb Silver Laced Wyandotte eggs, \$1, fifteen; \$5, hundred. Mrs. Wm. Imhoff, Hanover, Kansas.

BUFF ORPINGTON EGGS—\$1.50, FIFTEEN; \$6, 100. Toulouse geese eggs, 30c each. Ganders, \$4.50. No geese. Mrs. Frank Neel, Beverly, Kansas.

S. C. BUFF ORPINGTON, OWEN FARMS and Cook strain direct. Eggs, \$2 per fifteen. Fine lockers and great layers. Henry A. Kittell, McPherson, Kansas.

THOROUGHbred ROSE COMB BUFF Orpington eggs, fifteen, \$1.50; fifty, \$3.50; hundred, \$6. Best winter layers. Fannie Renzenberger, Greeley, Kansas.

EGGS—BUFF ORPINGTON, FROM WINNERS of first and special at recent Nebraska state show. Shipped prepaid. Hatch guaranteed. Mating list free. Leo Anderson, Juniata, Nebraska.

EGGS—SINGLE COMB WHITE ORPINGTON. High class eggs for hatching; heavy laying strain; \$1.75 per setting of fifteen, \$5 per fifty, \$8 per hundred. Helton & Lauridsen, Callaway, Nebraska.

SINGLE COMB BUFF ORPINGTONS, exclusively. Cockerels scoring 93-94 points standard bred. Eggs from pen, \$3 per fifteen; range, \$5 per hundred. Warner strains. Mrs. Charles Brown, Parkersville, Kansas.

ANCONAS.

FOURTEEN ANCONA HENS Laid 24 dozen eggs in one month for me. Send \$2.50 for two settings. Seven settings, \$8. Joe Partsch, Route 3, Humphrey, Neb.

PURE-BRED MOTTLED ANCONA breeding pen for sale to make room for young stock. Fifteen hens and a No. 1 cockerel. D. G. Krudop, Manhattan, Kansas.

CHICK FEED.

CHICK-KO MEANS CHICK FEED MADE by Coe. We say it's the best chick feed for chicks on the market. Your dealer will order it for you if he hasn't it. The D. O. Coe Seed & Grain Co., Topeka.

HENS WANTED

Will pay 28c per pound for fat hens delivered before April 12, 1919. Eggs and other poultry at market price. Coops loaned free.

"THE COPE'S" Topeka

Established 1883.

Bank References Furnished.

(Poultry ads continued on page 14)

HELPFUL POULTRY HINTS

Practical Ideas on How to Fill the Egg Basket and Increase Profits

Busy Month With the Poultry

APRIL should be a busy month in poultry raising. Future success depends on good work now. Do not handicap the work by unnatural restrictions. Let them hustle around. Standard-bred chicks can rough it as well as mongrels—even better. Let the chicks have plenty of liberty and keep their quarters clean. Get in touch with your county agricultural or home demonstration agent for advice on knotty problems.

Get Rid of Lice

Head lice on chicks is one of the drawbacks from now on. No letup in fighting these pests should be allowed. There are many remedies on the market, but a little lard about the size of a pea rubbed thoroughly on the back of the head and neck is sufficient to rid the chick of these pests. This should be done after dark on a dry, warm night. Previous to this the coop, hen, or brooder should be thoroughly treated. Send to the United States Department of Agriculture for Farmers' Bulletin 801 on "Mites and Lice on Poultry." Your county agent may have copies of this bulletin for distribution.

Cull the Flock

It is a wise plan to begin culling the slow-growing weaklings this month. These with prominent physical defects, such as very crooked tails, lameness, or other deformities that will tend to handicap future development and egg laying, should be culled out; also get rid of all males just as soon as possible, except those that will be needed for breeding purposes.

Avoid Overcrowding

Another thing to be avoided is overcrowding. A coop, brooder, or colony house that was large enough to hold the baby chicks is not large enough after two or more months, depending on the breed and growth. It is absolutely necessary that the growing chicks have plenty of room to grow. The flock must be culled, and cockerels that are sufficiently large should be separated and disposed of. Chicks that have not shown proper growth should also be separated and leg or wing banded. Many of these chicks, even the pullets, should be marketed. Only the good, strong, vigorous specimens should be retained as breeders and layers, as these are the only ones that can return a profit.

Produce Infertile Eggs

Production of infertile eggs is strongly advised. Infertile eggs not only keep better but keep longer. The housewife should insist upon infertile eggs for preserving. Those who raise eggs for the market are making a great mistake by not removing the males from the flock. Millions of dozens of eggs, amounting to vast sums of money, are lost each year by the carelessness of the producer in allowing the males to run in the flock after the hatching season. It has also been proved that hens lay fully as well without the male. The cost of keeping the males should be considered, also the fact that early hatched, vigorous cockerels of this season will give better service for breeding next season than the old males which should be disposed of.

Produce Salable Eggs

After removing the male, observe the following rules: Have clean and sufficient nests; gather the eggs twice daily; keep them in a cool, dry place; market them as often as possible, at least twice a week; do not market stray eggs that are found in haylofts, sheds, or out-of-the-way places unless positively sure that they are absolutely fresh; keep the small and very large eggs for home consumption. In this way a profitable demand for the eggs will be created.

Preserve Eggs Now

Many people will remember that they

Save the Baby Chicks

Our book, "CARE OF BABY CHICKS," and a package of GERMIZONE are the best insurance against chick losses. Those formerly losing more than half their hatched now raise better than 90 per cent. To you who have never tried GERMIZONE, we will send postpaid, book and package as above. You pay, if satisfied, 75c; 60 days' trial. We trust you. Druggists and seed dealers sell GERMIZONE, the best poultry remedy and preventive. For old and foot, hump neck, chicken pox, sour crop, skin disease, etc. Sick chicks can't wait. So it new.

GEO. H. LEE CO., Dept. 415, Omaha, Neb.

had to pay from 75 cents to \$1.25 a dozen for eggs last fall and winter. It will not be necessary to pay such high prices if eggs are preserved in water glass now when they are lowest in price. Wherever they can be obtained, infertile eggs should be preserved, as they keep better. For instructions write to the agricultural college or consult your county or home demonstration agent.

Geese Easy to Raise

Geese can be raised in small numbers successfully and at a profit on farms and in localities where there is low rough pasture land and a natural supply of water, says E. H. Wiegand, state poultry club leader. Grass makes up the bulk of the feed for geese and it is doubtful whether it pays to raise them unless good grazing range is available.

Geese are good grazers, and except during the winter months, usually pick up most of their living. Their pasture may be supplemented with light feeds of the common or home-grown grains or wet mash daily, the necessity and quantity of this feed depending on the amount of pasture available. A body of water where they can swim is needed during the breeding season, and is a good feature the rest of the season.

Study Brooder Operation

In brooding chickens artificially it is absolutely necessary to provide different degrees of warmth in different parts of the brood. A brooder to be successful should supply a high heat, pure air, and afford opportunity for the

chickens to select their own temperature. Millions of healthy chickens die yearly because of too hot, or too cold, or too poorly ventilated brooders. The first need of a young chicken is heat. Heat helped it come into the world; a lack of heat will send it out of the world. At all times it must be able to find a temperature of not less than 100 degrees. But if a chicken were compelled to remain in a temperature of 100 degrees, it would be as fatal as the inability to get into that temperature. Every brooder should supply an opportunity for chickens to choose the temperature most agreeable to them. They will begin to do this when a day old, if the brooders are properly constructed. A close observer will discover that a chicken's actions, from birth to maturity, are controlled by two instincts. One is intuitively to go from a lower to a higher point. Placed on an incline, it instinctively runs upward, and hesitates to run downward. The second instinct is to go toward the source of heat, from which it derives strength and comfort. Coupled with these instincts is the bump of location—the largest bump in the chicken's head. It never forgets the place where it has found protection and comfort, and will seek it naturally after the first experience. A brooder, therefore, should be so arranged that there is the greatest possible surface to radiate heat and also an opportunity for the chicks to get away from the strong heat without getting out into the cold. It should be above the floor level, in order that the chicks will run up to it naturally, rather than seek a corner which might be on the level of the brooder floor. The elevation above the floor also provides for air drainage, allowing cold air to settle away to the lower parts.

The instinct which impels the hen-brooded chick to seek comfort and heat

from the mother's body occasionally leads to disastrous results in artificial brooding. A chicken which has once secured warmth from a sunny spot in the corner of a brooder, or from the bodies of its companions in some cold spot, will intuitively and persistently continue to huddle in the same place, rather than go to a warm hover near by, simply because its memory makes the place of former comfort its home. Therefore, the chick should be started right and kept within easy reach of the hover for the first day or two, until it learns the source of heat. The brooder should always be supplied under the hover with fresh air from the outside. This air should be thoroughly warmed and distributed upon the chicks where they are apt to be the thickest.

A good way to break up a broody hen is to put her in a light airy coop, with a wire or slat bottom that can be hung up. This permits a free circulation of air, and as it blows up through the fluff it reduces the fever which is in her blood at this time.

If one has not had the nerve to use the open front house during the winter, better begin now by removing the windows on the south and use muslin.

Prevent Dead Chicks In the Shell

You can prevent it. Right methods as outlined in a new 16-page bulletin, issued by Professor T. E. Quisenberry, Box 3710, Leavenworth, Kansas, tells you how to avoid this great loss. Also how to successfully raise baby chicks and what to feed them. This bulletin will be sent to our readers who ask for it. Suggest you write today before supply of bulletins are all gone.—(Adv.)

With Warm Medicated Dirt Floors. Saves Baby Chicks. You can change any old brooder or make one of these from an ordinary box. We will send you this information absolutely free. Also tell you

WHY CHICKS DIE IN THE SHELL

The Book is Free—Just Send Your Name on a Post Card
RAISALL REMEDY CO., BLACKWELL, OKLA.

HOME MADE BROODERS

PLANT THIS HOME APPLE ORCHARD



and in just a short time—a very few years—you'll have apples by the barrel from your own Home Orchard. And the trees will add to the value of your home. You can plant them in your yard, or in a row along the fence or road, or in the chicken run, where the growing trees will provide shade for the flock. Accept our offer and order your trees NOW!

WE'LL SEND TWELVE GRAFTED APPLE TREES, POSTPAID

Each little tree is produced by grafting together a "scion" (branch) from a selected tree of heavy-cropping record, to a healthy one-year root. Each little tree is about a foot high. They take root at once, make rapid growth, and bear large crops of choice apples even sooner than larger trees planted at the same time.

TWO EACH OF THE SIX MOST POPULAR VARIETIES

Two Genuine Delicious The finest and most beautiful apple grown. Very large, inverted pear-shape. Color dark red, shading to golden yellow toward the tip. A fine keeper, sweet and juicy. The tree is strong, hardy and productive.

Two Stayman Winesap Deep, rich red in color. It is a marked improvement over the old Winesap, in both quality and appearance. Flavor rich subacid. The tree is a thrifty grower and an abundant bearer.

Two Yellow Transparent A very early and an abundant bearer. Often bears some apples the first year, even in the nursery row. A summer apple. Flavor acid and very good. Skin clear white, turning to pale yellow.

Two Wealthy A native of Minnesota, where it has proved hardy, vigorous and productive. The fruit is of medium size, red, streaked with white. Excellent quality and flavor. One of the best and most productive apples grown.

Two Jonathan A general favorite, and always in good demand at fancy prices. Of medium size, roundish; skin nearly covered with dark red. Fine-grained, tender, and of exquisite flavor. Tree slender and spreading.

Two Winter Banana A fine, vigorous grower, with large healthy foliage. A very early bearer of large, beautiful apples, golden yellow, with a red blush. The flesh is rich, aromatic, and of the highest quality. A good keeper.

OUR GRAFTED APPLE TREE OFFERS

OFFER NO. 1: One set of these 12 Grafted Apple Trees will be sent you postpaid with a one-year subscription to Kansas Farmer for only \$1.35.

OFFER NO. 2: Two sets of these trees (24 trees, four of each variety), will be sent you postpaid for two yearly subscriptions to Kansas Farmer at \$1.00 each, provided one of the subscriptions is a new one. On this offer one of the subscriptions may be your own, but one must be a new subscription.

Take advantage NOW of our offer, and in a short time you will have a fine Home Orchard.



PURE BRED POULTRY

SEVERAL BREEDS

EGG CATALOG FREE—WYANDOTTES, Brahmars, Reds. Six kinds of ducks. Fred Kucera, Clarkson, Nebraska.

EGGS—BUFF ROCKS, BUFF LEGHORNS \$1. fifteen; \$5 hundred. Albert Nagengast, Howells, Nebraska.

GEESSE AND BANTAMS—STOCK AND eggs for sale. Two White Rock cockerels, one White Wyandotte. Emma Ahlstedt, Lindsay, Kansas.

S. C. REDS AND WHITE ROCKS—Raise your prize winners from our reliable baby chicks and hatching eggs. We guarantee safe delivery and good fertility. Reliable Poultry Farm, University Place, Neb.

AUCTIONEERS.

LIVE STOCK AUCTIONEER—Fifteen years' experience. Wire for date. JOHN H. HUTCHINSON, KAN.

SHORTHORN CATTLE.

WHY NOT TRY IT?



Any farmer who raises grades would realize larger profits if he raised pure-bred Shorthorns. They don't require any more room, nor any more feed, nor any better care than the grades should have. They sell for more money. A Kansas farmer produced 84 head from one registered Shorthorn cow in 12 years. Two brothers in Wisconsin produced 119 head from one in 14 years. The value counts up when you're breeding pure-breds.

AMERICAN SHORTHORN BREEDERS' ASS'N., 15 Dexter Park Avenue Chicago, Illinois

MARK'S LODGE RED SHORTHORNS

For Sale—25 well bred cows and heifers bred, priced reasonable. A few young bulls by Double Diamond by Diamond Goods. Price, \$150. Come and see my herd. M. F. MARKS, VALLEY FALLS, KANSAS

HAMPSHIRE HOGS

Registered Hampshire Hogs—Sows and Spring Gilts, bred or open. Choice spring boars. Double treated. Geo. W. Ede, Valley Falls, Kansas

TWO HAMPSHIRE BOAR PIGS, farrowed in October, at \$30 each, registered and graded. W. C. PARSONS, Barnard, Kansas.

HEREFORD CATTLE.

Hereford Cows For Sale

A Few Choice Registered Hereford Cows, some with calves at foot, bred to double-standard Polled Hereford bull; also my Polled herd bull. P. A. DREVETS - SMOLAN, KANSAS

DUROC JERSEYS.

HIGHVIEW DUROCS

Home of Repeater by Joe Orton King and Golden Reaper by Pathfinder. For sale—spring boars and a few bred gilts. I guarantee satisfaction or your money back. F. J. MOSEK - SABBETHA, KANSAS

E. H. DIX & SON'S DUROCS

For Sale—One choice spring boar, a real herd header. Twelve spring gilts bred to Giant Crimson by G. M.'s Crimson Wonder, a prize winning boar. Priced reasonable for quick sale. Write today. E. H. DIX & SON, HERINGTON, KANSAS

Woodell's Durocs

A choice lot of extra well bred gilts bred for late farrow. Few fall boars. G. B. WOODDELL, WINFIELD, KANSAS.

STATEMENT OF THE OWNERSHIP and management of Kansas Farmer, published weekly, at Topeka, Kan. For October 1, 1918. Required by the Act of August 24, 1912. State of Kansas } ss. County of Shawnee } ss. Before me, a notary public in and for the state and county aforesaid, personally appeared W. J. Cody, who, having been duly sworn according to law, deposes and says that he is the manager of Kansas Farmer and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management of the aforesaid publication for the date shown in the above caption. President and Editor—G. C. Wheeler, Topeka, Kan. Business Manager—W. J. Cody, Topeka, Kan. Publisher—The Kansas Farmer Company, Topeka, Kan. (A corporation.) Names and addresses of stockholders holding 1 per cent or more of total amount of stock: T. A. Borman, Topeka, Kan. M. A. Low, Topeka, Kan. S. H. Pitcher, Topeka, Kan. John R. Mulvane, Topeka, Kan. E. W. Rankin, Topeka, Kan. O. W. Devine, Topeka, Kan. C. C. Younggreen, Topeka, Kan. E. T. Guymon, Hutchinson, Kan. W. C. Richardson, New York, N. Y. W. J. Cody, Topeka, Kan. W. F. Evans, St. Louis, Mo. Dean R. Low, Bartlesville, Okla. Barteldes, Lawrence, Kan. Reid, Topeka, Kan. G. C. Wheeler, Topeka, Kan. Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities: None. (Signed) W. J. CODY, Business Manager. Sworn to and subscribed before me, this 24th day of March, 1919. S. H. PITCHER, Notary Public. My commission expires March 17, 1923.

POLAND CHINAS

Deming Ranch Poland Chinas. Big-Type Poland China Hogs

For Sale—Thirty large spring gilts bred for April and May farrow. Write or come and see our herd.

Deming Ranch, Oswego, Kan. (H. O. Sheldon, Herd Manager)

JOHNSON'S BIG-TYPE POLAND CHINAS Herd boar Over There No. 95555, the greatest son of Caldwell's Big Bob. A few bred sow and gilts for sale. Bred sow sale March 8. V. O. JOHNSON - AULNE, KANSAS

Oak Grove Stock Farm Polands

The blue ribbon herd of Spotted Polands. Fall pigs sired by O and O 25th, are immuned, recorded and the very best of breeding. Also choice Barred Rock cockerels, \$3 and \$5 each. E. W. SONNENMOSE - WESTON, MO.

LANGFORD'S SPOTTED POLANDS

Bred gilts, tried sows, herd boar prospects. T. T. Langford & Sons, Jamesport, Missouri

ERHART'S POLAND CHINAS

Have a few bred sows and bred gilts priced reasonable. All immuned. Several fall boars ready for service. Write your wants. A. J. ERHART & SONS, NESS CITY, KANSAS

CHOICE LOT OF POLAND CHINA BRED SOWS AND GILTS FOR SALE.

A Few Fall Pigs. CHAS. E. GREENE, Townview Farm, Peabody, Kansas

SHROPSHIRE SHEEP

FOR SALE



A bunch of registered Shropshire rams, ready for service. Priced worth the money. Also registered ewes. Howard Chandler, Chariton, Ia.

MULEFOOT HOGS.

KNOX KNOLL MULEFOOTS

Orders now booked for February litters. Catalog and prices on request. S. M. KNOX - HUMBOLDT, KANSAS

HORSES AND MULES.

JACKS AND JENNETS



15 Large Mammoth Black Jacks for sale, ages from 1 to 8 years; large, heavy-boned. Special prices for early sales. Twenty good jennets for sale. Two Percheron stallions. Come and see me. PHIL WALKER, Moline, Elk County, Kansas

Percheron Stallion For Sale

LAPERSHING NO. 139914, extra good. Black, white star, coming three years old, recorded in Percheron Society of America. Priced reasonable for quick sale. LLOYD T. BANKS, Independence, Kansas.

PERCHERON-BELGIAN SHIRES

Registered mares heavy in foal; weanling and yearling fillies. Ton mature stallions, also colts. Grown ourselves the ancestors for five generations on dam side; sires imported. Fred Chandler, Rt. 7, Chariton, Iowa

JACKS AND JENNETS

Registered Jacks and Jennets. Good individuals, good colors. Have some choice young jacks that are priced to sell quick. GEO. S. APP, ARCHE, MISSOURI

PERCHERON STALLIONS AND JACKS

FOR SALE—A number of Percheron stallions, yearlings and matured horses. All registered in Percheron Society of America. Sound, heavy bone, splendid colors. I have several horses that would have won in all the classes at our state fairs last year and must be seen to be appreciated. Dr. McCampbell of Manhattan and O. W. Devine, Topeka, tell me I have as good horses as they see on any farm in Kansas. Come and see them. J. C. PARKS - HAMILTON, KANSAS

HOLSTEIN CATTLE.

CHOICE HOLSTEIN COWS FOR SALE

One carload fresh Holstein Cows—One carload heavy Springers These cattle are extra good. A few choice registered bulls.

HOPE HOLSTEIN FARMS - HOPE, KANSAS

ANGUS CATTLE

Dietrich's Aberdeen-Angus Aged bulls, fifteen choice spring bulls. Females, all ages. GEO. A. DIETRICH, CARBONDALE, KAN.

Cherryvale Angus Farm Is offering six choice Angus bulls ranging in age from 9 to 11 months. All sired by Roland L. No. 187220. J. W. TAYLOR, Clay Center, Kansas

ANGUS BULLS

For Sale—Seven head bulls from 7 months to 3-year-old herd bulls. Priced to sell. Write your wants or come and see my herd. I mean business. FRANK OLIVIER, JR., Danville, Kansas

GUERNSEY CATTLE.

GUERNSEY BULLS Good individuals of serviceable age, of May Royal, May Rose, Masher Sequel, Raymond of the Free breeding. Write or come and see them. They are priced to move. ADAMS FARM, GASHLAND, MISSOURI, Twelve miles from Kansas City.

AYRSHIRE CATTLE.

MARGINALIA'S BULL IS SOLD TO G. M. PICHRELL, LEON, KANSAS. Write for breeding of Aca 3d's calf by Elizabeth's Good Gift, at \$150. JOHN LINN & SON, MANHATTAN, KAN.

BREEDERS' DIRECTORY

DORSET HORN SHEEP H. C. LaTourrette, Route 2, Oberlin, Kan. HEREFORD CATTLE F. S. Jackson, Topeka, Kan. RED POLLED CATTLE Mahlon Greenmiller, Pomona, Kansas. POLLED DURHAMS C. M. Albright, Overbrook, Kan.

RED POLLED CATTLE.

RED POLLED CATTLE BREED AND PRICED RIGHT. MORSE STOCK FARM, NEOSHO, MISSOURI

RED POLLED BULLS

Twelve head coming two-year-olds and twenty head of coming yearling bulls. This is an extra nice and well colored bunch of bulls sired by ton sires. Inspection invited. E. E. FRIZELL & SONS, FRIZELL, KAN.

RED POLLED CATTLE FOR SALE

Young bulls and some extra good young cows to calve in early spring. A few yearling heifers. I. W. FOULTON, MEDORA, KANSAS

RED POLLS, BOTH SEXES, BEST OF BREEDING.

Charles Morrison & Son, Phillipsburg, Kan. Please Mention Kansas Farmer When Writing to Advertisers.

HOLSTEIN CATTLE.

HIGH GRADE HOLSTEIN

Calves, either sex, from heavy producers, well marked, 4 to 6 weeks old, 15-16ths pure. \$25 each, crated and shipped to your station. Express and all charges paid here. Highland View Place, Whitewater, Wis.

BRAEBURN HOLSTEINS

Looking for a bull? I can generally offer you choice of half a dozen, by two different sires. That saves time and travel. H. B. COWLES, 608 Kansas Avenue, Topeka, Kansas

BUTTER-BRED HOLSTEINS

Three choice registered Holstein bulls, ready for light service, and some bred heifers to a 32-pound sire. J. P. MAST, SCRANTON, KANSAS

Holstein Calves

Choice, beautifully marked calves from heavy milking dams, either sex. Also cows and heifers. Write W. C. Kenyon & Sons, Holstein Stock Farms, Box 33, Elgin, Illinois

GOLDEN BELT HOLSTEIN HERD

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

HOLSTEINS!

We are offering a choice selection of both registered and high grade springer cows and heifers. Also pure-bred bulls and young females. All reasonably priced. Come and see them or write. T. R. MAURER & Co., EMPORIA, KANSAS

CHOICE HOLSTEIN CALVES

12 Heifers and 2 Bulls, highly bred, beautifully marked, and from heavy producing dams, at \$25 each, crated for shipment anywhere. Safe delivery guaranteed. Write FERNWOOD FARM, WAUWATOSA, WIS.

SEGRIST & STEPHENSON, WOLTON, KANSAS. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

YEARLING HOLSTEIN BULL—Fine individual. Dam gives 44 to 52 lbs. per day. CASTILLO & SON, INDEPENDENCE, KAN.

REGISTERED HOLSTEINS

Well bred bull calf born October 31, nearly white, extra good individual. Have other bulls a little older. O. S. ANDREWS - GREELEY, KANSAS

JERSEY CATTLE.

SOUTH SLOPE JERSEYS

For Sale—Young bulls and bull calves sired by our Torono and Raleigh bred bull; also two sired by a double line-bred Spirme-field's Owl and Interested Prince bull out of high producing R. of M. dams milking as high as 47 pounds daily, milked twice a day only. J. A. COMP & SON, Rural Route 4, White City, Kansas. Please mention this paper.

CHOICE JERSEY BULLS

FOR SALE—Four choice young Jersey bulls; two ready for service; all sons of Blue Belle's Owl 79641, Register of Merit sire; two from Register of Merit dams, one from imported dam, one dam now on test. Prices reasonable. Dornwood Farm, Topeka, Kan.

Rolling Winter Wheat

When the frost comes out the ground it is likely to leave the soil in the winter wheat field filled with small cracks and checks. These expose a large number of roots and if the weather is dry the roots exposed will be injured or killed. Rolling about the time wheat starts to grow prevents such injury, as it presses the earth firmly around the roots. Experiments at the Nebraska Experiment Station in 1902, 1903, 1905, and 1906 showed that the rolled fields each year produced more than the unrolled fields, the average increase for the four years being 5.1 bushels. The experiments also showed that harrowing after rolling was not so good as rolling alone, the reason probably being that harrowing loosens up the plants again. Travel toward some definite point. It is a long, tiresome way to nowhere.

Kentucky Jacks at Private Sale

E. P. Maggard, with the firm of Saunders & Maggard, Flemingsburg, Ky., has shipped 21 head of jacks to Newton, Kansas, and they will be for sale privately at Johnson's Barn. This is a well bred load of jacks, and they range in age from coming three to matured aged jacks; height from 14 to 16 hands. We will make prices reasonable. 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 me.



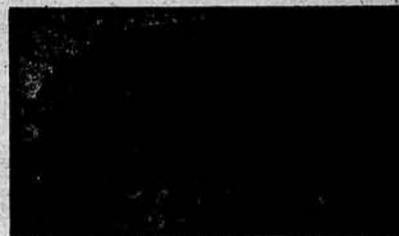
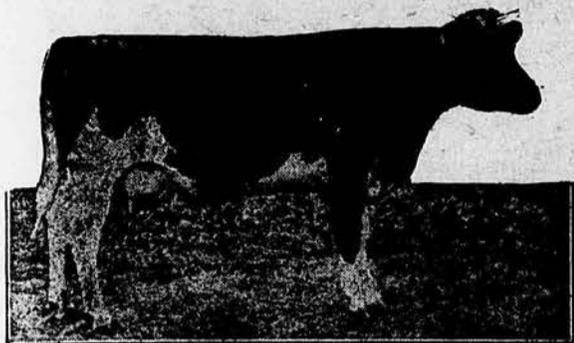
SAUNDERS & MAGGARD, Newton, Kansas

40 Holstein Cows - 20 Poland China Sows

DISPERSION SALE AT SAXTON, MISSOURI, SIX MILES EAST OF ST. JOSEPH, MISSOURI

Saxton, Mo., Tuesday, April 15, 1919

I have sold my farm and will disperse my herd of Registered and High Grade Holstein Cows and Poland China Brood Sows. Forty Holsteins—twenty-eight cows in milk, twelve two-year-old heifers, three registered cows) and four registered heifers, one registered herd bull. About twenty head of these cows I bought at good prices in the East three years ago and others have been raised on my farm. They are all good working herd and ready to make money for anyone who will give them attention. My Poland Chinas consist of twenty head of brood sows and spring gilts, sired by the great boar, B Wonder, Long Jumbo 2d, Big Bob Model, and Moore's Halvor. Seventeen head have litters by a son of Giant Wonder, he by The Giant, a boar that was grand champion of Missouri, 1915, and weighed, when shown by Mr. Will G. Lockridge, 1,130 pounds. Several of the sows have litters of from eight to thirteen pigs. Others will farrow



B. WONDER

later. Any farmer can make money with these sows and litters. Several extra good herd cows in this offering, also one herd boar. For catalog write

Thos. E. Deem, Auctioneer

U. S. Byrne, Saxton, Mo.

Parties will be met at Security Bank, South Park, St. Joseph, Missouri

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Spring Care of Foals

Soon the spring crop of foals will arrive. Before foaling time the foaling stall should be properly cleaned and disinfected, says E. H. Hughes, of the Missouri College of Agriculture. This will reduce the number of cases of joint disease. If the mare has been properly fed and exercised during the winter there should be little trouble during the first few weeks of the foal's existence. When the colt has developed to a point where he can eat such foods as bran or oats, he may be fed at the same time the mare is fed or his feed may be put in a small crib in a lot paddock or pasture where he can eat as he pleases.

Very little trouble should result from improper handling if the mare is allowed to run on pasture. If the mare must work it is necessary either to allow the foal to follow her or to house him in a box stall or paddock. In either case as soon as the colt learns to eat it is well to feed him a little clover or alfalfa hay, and some oats and bran. Mares

hard at work should be fed a liberal ration of grain, such as a mixture of corn and oats in equal parts and a little bran and oil meal.

Very little attention need be paid to the mare or foal if they are on pasture, because exercise and feed are provided naturally. The essentials in developing colts are plenty of water, exercise, air, sunlight and wholesome feed. The feed should contain considerable protein and mineral matter for the production of bone and muscle.

Kill Weeds Young

The time to kill weeds is when they are just coming through the ground. If allowed to become established, it is much more difficult to get rid of them than if they are taken in time. If the top two inches of soil is kept continuously and thoroughly loosened, no serious difficulty in keeping out weeds is probable.

Order the season's supply of spraying materials at once.

DISPERSION SALE OF FORTY-FIVE HEAD OF PURE-BRED REGISTERED RED POLLED CATTLE At Sterling, Rice County, Kansas

(Almost in Center of State)

Wednesday
April 16, 1919



The Practical Cow for the Farmer.

The Dual-Purpose 'Muley' Good for Milk and Butter.

Good for Beef. All Red. All Hornless. All Business.

- 31 Cows and Heifers Some giving milk, some with calves at side, some heavy with calf.
- 2 Heifer Calves One herd bull, Lettie's Duke No. 32075, calved October 8, 1916. One of the best in Kansas.
- 9 Bulls Eight young bulls from six to fourteen months old. Some are very promising.
- 3 Bull Calves

This herd was founded in 1912. These cattle have been wintered in open shed and roughed through on straw, corn stalks, some wheat pasture and some silage. They are in good breeding condition, but will not sell for their worth. There will be bargains. They have the breeding, the blood, the appetite. All they need is good green pastures to make their owners prosperous and happy.

Write for catalog at once, as this ad will not appear again
A. E. Whitzel, Owner, Sterling, Kansas

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

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CLAIM SALE DATES.

Jersey Cattle.
June 24—Dr. J. H. Lomax, Leona, Kan.

Red Polled Cattle.
April 16—A. E. Whitzel, Sterling, Kan.

Holsteins.
May 12—A. S. Neale, Manhattan, Kan.
May 13—Sam Drybread & Son, Elk City, Kan. Sale at Independence, Kan.

Hereford Cattle.
May 12—Kansas Hereford Breeders' Draft Sale at K. S. A. C., Manhattan, Kan.

U. S. Byrne, Saxton, Mo., has sold his fine far mand will disperse his splendid herd of Holstein cattle and Poland China hogs on April 15. Mr. Byrne was one of the pioneer breeders of the big-type Poland

China hog. Several years ago he held the record for having in his herd the highest priced Poland China sow in Missouri, Pawnee Belle. From this sow he raised the great herd boar, B. Wonder, one of the bestsons ever sired by old A. Wonder. Long Jumbo 2d was also used in the herd very successfully and a number of the herd sows that will be dispersed are sired by these two boars. Twenty head of sows and gilts with litters of from eight to thirteen pigs will be included in this offering.

A. E. Whitzel, of Sterling, Kansas, owner of one of the good herds of Red Polled cattle in Kansas, has announced April 16 as the date for his dispersion sale of Red Polled cattle. Forty-five head of registered Red Polls will be catalogued for this sale.

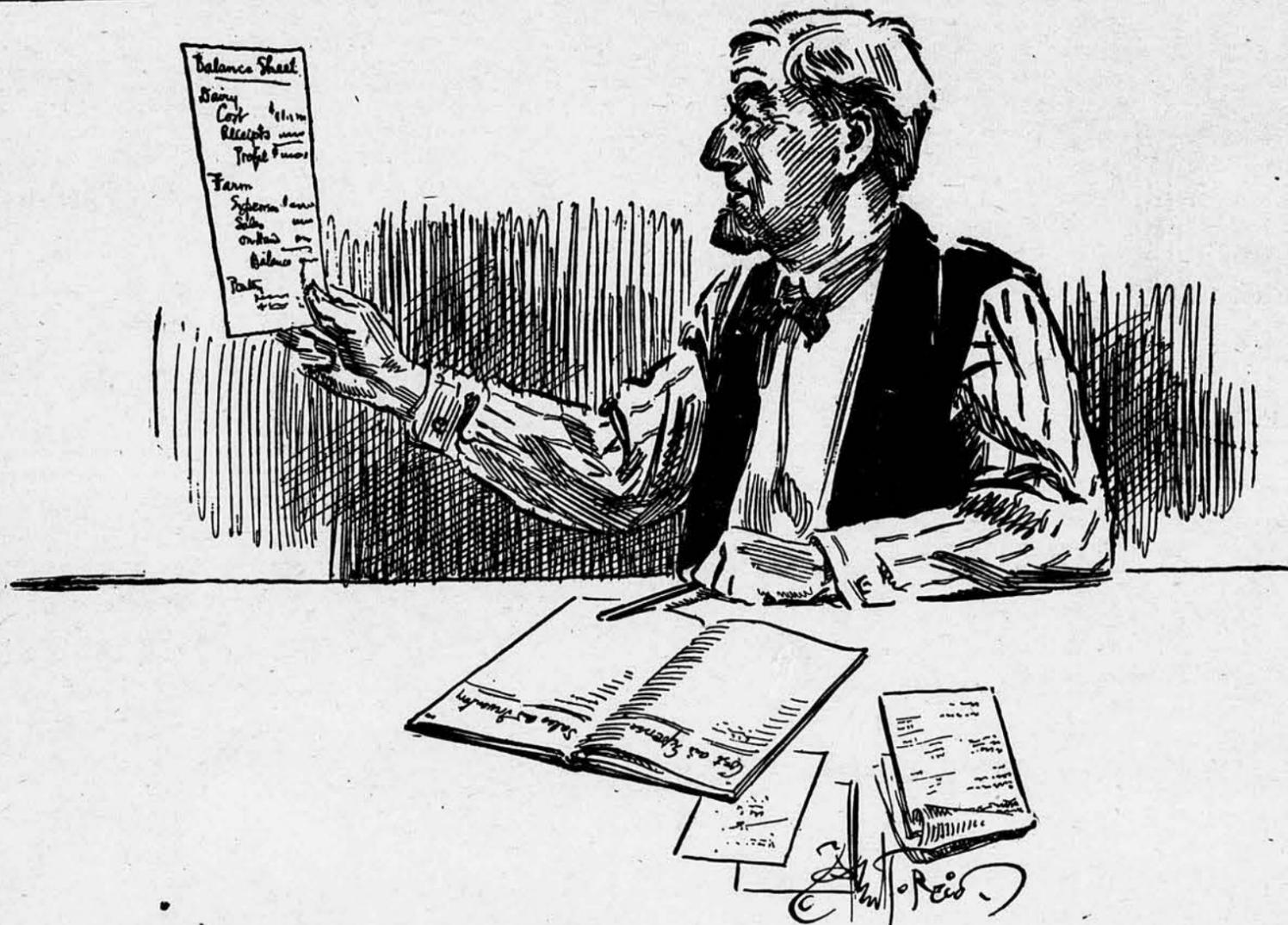
W. C. Parsons, of Barnard, Kansas, reports his herd of pure-bred Hampshire hogs doing well. Mr. Parsons has the popular blood lines in his herd and is breeding the type of Hampshires that are the big easy-feeding kind. A feature of his herd at this time is the fine lot of young stock, including some choice October boars.

The Deming Ranch, Oswego, Kansas, is the home of a great herd of Poland China hogs. Over a thousand head of registered Poland Chinas are on the farms at this time. H. O. Sheldon, herdsman, writes that he has just returned from the Wichita and Oklahoma City show circuit. He reports the grand champion sow has farrowed a litter of twelve nice pigs and twenty others now have litters of from eight to thirteen pigs that have been produced on the Deming Ranch. This is the largest herd of registered Poland Chinas anywhere in the West. A feature of the herd at this time is thirty head of large spring gilts that are bred for last of May and April farrow.

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