

KANSAS FARMER

For the improvement



of the Farm and Home

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SILAGE CHEAPENS GAINS

Silage-fed Steer Gains Three Pounds a Day Without Corn

THE Manhattan Experiment Station steers in at least one lot would have returned a fair profit if they had been sold at the end of the ninety-day period instead of being held for the full 110 days. These steers were purchased as two-year-olds costing \$14.60 a hundred and weighing an average 953 pounds when the test began January 15. At the end of the ninety-day period the ten steers fed the silage they would eat, alfalfa hay, and a little linseed oil meal, but no grain, weighed 1,258.83 pounds per head, having made an average daily gain of 3.22 pounds. This gain had cost only \$1.38 a hundred, in spite of the high prices of feed. Steers fed a full ration with silage, alfalfa hay and oil meal weighed 1,274.17 pounds per head after ninety days feeding, having gained at the rate of 3.61 pounds daily per steer, but the gains had been made at a cost of \$18.35 a hundred. The difference was due to the fact that in one of the gains had been made on silage only, while in the other the steers had eaten an average ration of fifteen pounds of corn daily.

The full silage-fed steers at the end of this ninety-day period had made a profit per steer of \$7.49, the selling value being determined by having buyers and commission from Kansas City sit the cattle in the yards and value them on the basis of what they would bring on the Kansas City market at that time. The full corn-fed cattle of lot 2, on the basis of the appraised selling price, represented at loss of \$5.35 at the end of this ninety-day period and includes a credit of \$2.27 which is the hog profit per steer in this lot. Inspecting these experimental cattle and having the results of the season's test given by Dr. C. W. McCampbell, head of the animal husbandry department of the agricultural college, was the outstanding feature of the cattle-men's meeting last Tuesday. Rainy weather and bad roads made it impossible for those within driving distance to come in cars, and as a result the attendance was not very large. A complete tabulation of results had been prepared and every man present was furnished a copy of the figures. A study of the results showed the necessity of having a spread of approximately a hundred between the cost, or value, of the cattle as feeders and their value on the market as finished animals under feed conditions and prices prevail-

ing and with usual methods of feeding. The cost of gains for the ninety-day period ranged from \$11.38 a hundred in the no-grain lot to \$21.53 a hundred in the lot receiving a full feed of corn, alfalfa and oil meal but no silage. We gave the results at the end of the sixty-day period in our issue of April 5.

There were ten steers in each of the four lots and they were fed as follows: Lot 1, full feed of corn, a maximum of three pounds of linseed oil meal daily to the steer, and all the alfalfa they would eat; Lot 2, a full feed of corn, a maximum of three pounds daily of linseed oil meal to the steer, and all the alfalfa and silage they would clean up; Lot 3 was restricted in corn to half the amount eaten by the steers in Lots 1 and 2. The steers in Lot 4 received no grain other than the three-pound maximum allowance of linseed oil meal, but were given all the silage and hay they would eat.

It is interesting to note the actual amounts of the different feeds consumed by the steers in different lots. The steers in the no-grain lot ate an average of 60.55 pounds of silage daily per steer for the 110 days of the test, 2.95 pounds of alfalfa hay and 2.69 pounds of linseed oil meal. The steers in Lot 2, receiving the full feed of corn, consumed an average of 26.11 pounds of silage daily to the steer, 2.95 pounds of alfalfa hay, 2.68 pounds of linseed oil meal, and 15.12 pounds of corn.

In view of the fact that a \$2 spread between the value of the cattle as feeders and their selling price was necessary in order for them to break even in the corn-fed lot, it is interesting to note the comparative cheapness of the gains made in the no-grain lot, considering the full 110-day period. The cost of a hundred pounds of gain in this lot was only \$12.33. A price at the conclusion of the test of \$15.29 a hundred at the yards in Manhattan would have brought the lot through without loss. Twenty days previously, or at the end of the ninety-day period, the steers in this lot had been appraised at \$15.75 a hundred. The slump in the price being paid for beef cattle at the central markets, which has amounted to practically \$2, made the difference between a good profit and a small loss in this lot. This is a thing with which every cattle feeder has to contend. These cattle are really better than they were three weeks ago and there seems to be no reason whatever why a beef steer should be worth

\$2 a hundred less now than at that time. J. H. Mercer, secretary of the Kansas Live Stock Association, who addressed the cattlemen present, stated that an explanation of this unwarranted drop would be demanded by the committee of fifteen representatives of producers which was to hold a meeting in Chicago the latter part of the week, the purpose being to confer with a packers' committee.

Cattlemen were greatly impressed with the exceptionally good gains made in all the lots, but particularly in the one where the steers received no corn. Full feeding of cattle in times past has always involved the feeding of heavy grain rations, and it has not generally been believed that heavy gains could be made for a long feeding period without heavy grain feeding. In the test just concluded the largest average daily gain made was in Lot 1, or 3.31 pounds per steer. Lot 2 came second, with 3.22 pounds, but Lot 4, receiving no grain during the whole period, was only slightly behind these two lots, the average daily gain per steer being 3.03 pounds. Lot 3, in which the steers received only a half allowance of corn, came last with an average daily gain per steer for the 110 days of 2.72 pounds. These no-grain steers which had gained at a rate of over three pounds a day for the 110 days, consumed only 88.66 pounds of linseed oil meal to each hundred pounds of increase. All the rest of the gain had been made on roughage in the form of silage and alfalfa hay, and as already noted the actual consumption of alfalfa hay was slight. The steers receiving the full grain ration with silage in addition had consumed 469.6 pounds of corn and 83.19 pounds of linseed oil meal to each hundred pounds of increase in weight and at a cost of \$20.46, as compared to \$12.33 a hundred in the no-grain lot.

A comparison of Lot 1, which received no silage, with Lot 4, shows that in the silage lot 1,996.81 pounds of cane silage and 6.7 pounds of linseed oil meal replaced 462.04 pounds of corn in the making of a hundred pounds of gain. In other words, a ton of silage replaced eight and a half bushels of corn. In discussing the results of this test Doctor McCampbell pointed out that after paying all the expenses involved in finishing the cattle of Lot 4 except the cost of the silage fed, there remained a balance of \$13.22 to pay for the silage consumed by each steer. This means that \$3.96 a ton could have been allowed

for the silage, or \$35.64 an acre for a crop produced in 1918 in spite of the hot winds and short rainfall. If the silage had been charged to the steers at the rate of \$3.96 a ton, the experiment station would have broken even on all expenses on Lot 4, while in Lot 1 there would have been a loss of \$37.76 a head for the steers, allowing for the gains made by the hogs running in the lots with them.

With such a showing as to gains and a finish sufficient to warrant a price of only 50 cents less a hundred pounds than the full grain-fed steers, the feeder is justified in drawing the conclusion that the economical way to produce beef is to feed a maximum of silage and a minimum of corn; in other words, make beef from silage, which is nothing more nor less than the cheap forage feed of the farm preserved in the most palatable form. To feed silage successfully it is necessary to supplement it with a protein concentrate to balance it. The question so frequently asked, How can the cost of finishing cattle for market be reduced?, was most assuredly answered in this test. That cattle can be finished so as to make good beef animals without feeding much, if any, high-priced grain, was shown most conclusively.

The silage used in this test was made from cane, the yield being at the rate of nine tons to the acre. Conditions were extremely unfavorable during the season of 1918. Corn on the station farm made only three and a half tons of silage to the acre, and no grain was matured by either cane or corn. Contrary to the common belief, this cane silage, but actual chemical test, was found to be less acid than the corn silage. The analysis also showed that it contained 5 per cent more actual dry matter than the corn silage, and in another test where both kinds of silage were fed the cattle showed a preference for the cane silage. These tests thus show very forcibly the value of this crop of silage in unfavorable as well as favorable seasons. In calculating the results of the experiments the silage was valued at \$8 a ton. This was not determined on the basis of cost production, but by a comparison with the market value of other feeds. Alfalfa hay was valued at \$30 a ton, linseed oil meal at \$65 a ton, and corn at \$1.58 a bushel.

The table given on another page furnishes part of the detailed figures given out at the cattle feeders' meeting.



STEERS FULL-FED RATION OF CORN, OIL MEAL, ALFALFA HAY AND SILAGE.— AVERAGE DAILY GAIN PER STEER FOR 110 DAYS, 3.22 POUNDS



THREE POUNDS OF GAIN A DAY FOR 110 DAYS WAS MADE BY STEERS IN THIS LOT ON RATION OF SILAGE, ALFALFA HAY AND 2.69 POUNDS DAILY LINSEED OIL MEAL

WRITE GALLOWAY

Specialists of the Federal Department of Agriculture have identified 150 kinds of wheat grown in this country, which bear more than 500 popular names.

Concrete for Permanence

duce the maximum returns in order to make the enterprise profitable.

Non-producing cows in a beef breeding herd are a dead loss and yield no income. Such cows a farmer can afford to keep in these days of high priced feeds. Every animal must produce the maximum returns in order to make the enterprise profitable.

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PRODUCERS MEET PACKERS

A committee of fifteen representing live stock producers of the country met in Chicago last week. Kansas was represented on this committee by J. H. Mercer, secretary of the Kansas Live Stock Association. This committee had been provided for as a result of the conference held in Kansas City April 10 at which meeting there was considerable difference of opinion between the representatives of Kansas, Missouri and the other central beef-producing states.

Following a compromise in the matter of a committee which provided for a committee of fifteen representing the various producers' organizations, it was checked up by the organizations to appoint their representatives, a meeting to be called in Chicago later to confer with a committee which had been appointed by the packers. At the Chicago meeting which was held last week Thursday and Friday, the American National Live Stock Association dominated the organization of the committee and named H. C. Wallace, Iowa, secretary of the Corn Belt Meat Producers' Association, chairman, and J. Carmichael, of the National Swine Producers' Association, secretary. After organization, the committee spent the remainder of the day in discussing the various points to be taken up with the packers' committee, which had been invited to confer with them the following day for the purpose of going over some of the most vital questions concerned with the stabilization of market prices.

The reasons for such a slump as has taken place were asked of the packers and very plausible explanations were given. It was agreed by both parties that some means of preventing these price fluctuations were absolutely essential to the security and permanence of the live stock business. Ex-Governor Stuart, of West Virginia, who addressed the packers on this point, pointed out that every meat animal coming to market at this time bears on its back the burden of war-time cost of production. He maintained that the live stock producers of this country for a number of years had worked for nothing and had ended themselves. When they finally came into a temporary period of prosperity it was found that this period was being asked to give of their profits to help win the war and to divide their incomes with Uncle Sam and the producers shared and shared will be of their temporary prosperity that war might be won. "The packers could realize," said Governor Stuart, "that the producers are their natural enemies in getting meat for the operations of the packers and there should be no sympathy between the two factors of meat production." The various packer representatives who spoke were very insistent in their arguments that the producers were not responsible for the situations which occur.

Another point raised and discussed at length was the unnecessary expense being put into the local distribution of meat to consuming centers, it being stated by way of illustration that the Bureau of Agriculture had found a thousand places selling meats in Washington, whereas perhaps a hundred or so could have rendered all the service needed. This is recognized as a source of waste largely to the city consumer. Only through education of the public as to the various means of cost involved in getting meat to the packing house to the table can it be in any way changed.

Mr. Mercer, the Kansas representative, and ex-Governor Stuart, addressed the packers' committee on the matter of advertising which the leading packers have been conducting for the past year. Mercer maintained that there was need for this good will propaganda. He argued that packers could accomplish more good by spending their advertising appropriation in showing the

value of meats as food and otherwise endeavoring to stimulate increased consumption. The class of publicity going now is misleading in that it might easily result in making the public believe that the producers were the parties solely to blame for the high cost of meat. A widespread belief along that line would work serious harm to the producers of live stock and in the long run would react on the consumer instead of bringing him any benefit. This seemed to give the men on the packers' committee a new slant on the advertising question and they frankly admitted the merit of what was said along this line.

The producers' committee, so far as any information has leaked out from the meeting, seems to have gotten down to a working basis as a committee in spite of the differences which existed between the two factions of the committee in the beginning. Apparently both of these factions have somewhat modified their views and the committee is now ready to act harmoniously as a representative of the big producing interests of the country. Before adjourning joint sub-committees of producers and packers were appointed. One of these, known as the executive committee, is to give special consideration to some of the larger problems of stabilization, and two are for specific purposes, one designated as the committee on distribution to look into the methods and practices involved in getting meat to the consumer and the other to work out a plan of advertising with a view of carrying out such suggestions as were made in the general meeting of the committee. The producers' committee also appointed a marketing committee consisting of J. H. Mercer, Topeka, Kansas; A. W. Nelson, Bunceton, Missouri, and W. W. Turney, El Paso, Texas.

We give this brief resume of what happened at the Chicago conference between the live stock producers' committee and the packers' committee without comment. Every live stock grower is interested in the problems under consideration and, even though he may doubt the possibility of getting fair treatment of the packers, will grant that such a conference is a step in the right direction and may open the way for a better understanding of the problems involved by both producer and packer.

COST OF PRODUCING WHEAT

Kansas can probably claim credit for having more complete figures on the cost of producing wheat than any other state. Considerable controversy arose in connection with the question of fixing a price on wheat in carrying out the provisions of the National Food Control Act which was passed as a war measure. There was a scarcity of real information on the subject and the committee was greatly handicapped in its work by this lack.

The Kansas Experiment Station during the past year has been making some careful investigations on the cost of producing the 1918 crop and has just announced that considering the state as a whole the average cost per bushel would have been approximately two dollars if an average yield had been obtained. The investigations began soon after the 1918 crop was harvested and threshed. Estimates of the various items of cost in growing wheat were obtained from 300 farms. These were in Doniphan, Pottawatomie, Clay, Jewell, Thomas, Ellis, Ford, Barton, Harvey, Sedgwick and Sumner counties. This information was gathered by visits to the farms and through the asking of direct questions. In the case of certain items which the farmers themselves were unable to furnish, such as the cost of the use of machinery, estimates were made based on the cost accounting systems which have been worked out by the experiment station and found by checking the results to be fairly accurate on the point involved.

Mr. Grimes, who has had charge of this work, states that the costs determined

represent the value of all labor and other products used in the growing of wheat. It must of course be admitted that production figures determined as these were cannot be so reliable and accurate as those determined by the keeping of actual records. They are estimates to a considerable extent and must be considered as such, but the information has been gathered by men who have had considerable experience in getting approximate information in this way.

In practically every case where the cost per bushel was less than two dollars the yield was higher than the ten-year average, and where the cost was more than two dollars a bushel for the 1918 crop the yield was lower than the ten-year average. If the 1918 yield had been the same as the ten-year average yield, the cost per bushel would have worked out about two dollars in most of the counties.

High yields resulted in lower costs, even though the acre cost had increased somewhat with the increased yield. This of course points to the practice of better methods and using better seed which would increase the yield without increasing the cost excessively.

COLLEGE CATTLE LOSE MONEY

The drop of two dollars a hundred in the price of beef cattle which occurred during the latter part of April wiped out any chance which the Kansas Experiment Station had to break even on the two-year-old steers fed the past season. In the lots full-fed on grain even the addition of two dollars to the market price would not have put the balance on the credit side. In Lot 1, which was the most expensive from the standpoint of cost of gains, a hundred pounds of gain cost \$21.48, while in Lot 4, fed silage without grain, the cost of one hundred pounds of gain was but \$12.33. The economy of silage-made gains combined with the fact that these cattle made an average daily gain of more than three pounds daily to the steer for 110 days seems to be the outstanding lesson of the test. The results certainly gave cattlemen something to think about along the line of making beef on cheap rough feed with a minimum of concentrated feed.

The baby beef animals fed during the same period made some money, but this cannot be entirely attributed to the fact that their gains were more economically made. The price at which these calves went into the feed lot was low enough to give a much wider spread than was possible with the two-year-old steers costing as they did \$14.60 a hundred as feeders.

Baby beef production naturally appeals to the man who grows his own cattle, for he combines all the profits of the business and can eliminate some of the expenses incidental to moving the cattle from one locality to another. As the cost of production on the ranges has increased, it has been increasingly difficult for the cattle feeder to buy cattle low enough to insure a reasonable profit in finishing them. Questions of marketing are of great importance at the present time, and particularly the working out of some method whereby a stabilization of prices may be brought about, but the cattlemen cannot afford to overlook any point contributing to greater economy in feed.

PLAN FOR WHEAT STORAGE

Judging by our past experience, we can predict with almost a certainty serious congestion of railroads, elevators and terminal markets when the 1919 wheat crop begins to move. With the predicted yield of 200,000,000 bushels in Kansas as against about 100,000,000 bushels last year, we may expect the usual trouble in aggravated form. With the guaranteed price in operation, every farmer producing wheat knows exactly what to expect for a certain grade. The natural tendency would be to market the crop at once. The Grain Corpora-

tion has so far not given the slightest indication that any effort will be made to ease the wheat into market by permitting a storage allowance on the farm which would work for justice to farmers who may be prevented from getting their wheat marketed promptly because of the congestion which is sure to occur. Mr. Barnes seems to take the position that this would be an additional subsidy to the producers.

As far as we can see now, the wheat farmer might just as well begin to make his plans on the basis of wheat embargoes and the backing up of shipments which will compel him to hold his wheat whether he wishes to or not. We have already suggested the desirability of providing storage on the farm in some form. While it will not be necessary for every farmer to hold wheat back, some will be compelled to do so, and since no one can foretell what his own lot may be, the wise plan is to provide some means of handling the crop in case it cannot be moved to market promptly. Portable bins of metal or wood can be provided in advance, and cheapest of all is careful stacking of bound wheat.

J. C. Mohler, secretary of the Kansas Board of Agriculture, with whom we discussed this matter recently, believes that it is a question requiring the most serious consideration of every grower of wheat. He says: "It looks as though conditions would force the wheat growers to hold a very large amount of wheat and in that case it certainly would be wise to provide adequate facilities for storing it in good condition. Doing so ought to mean money to the farmer through the saving of grain and the preserving of its quality, even though the price remains the same. To encourage storing and as a matter of fairness and simple justice to wheat raisers the United States Grain Corporation should pay a storage charge, but as yet there is no assurance that this will be done. But whether the Grain Corporation is to give the farmers a square deal or not in this respect, many will surely be compelled to hold their wheat, and wherever that is probable provision should be made for storing."

MEMORIAL DAY

One of our finest customs is that of decorating the graves of our dead, especially the graves of those who have fought their country's battles. The setting aside of a day for the paying of this tribute is but a simple recognition of the indebtedness of the entire nation to its defenders. Not less real is the gratitude of the country to those who are still living but who have offered their lives as truly as any who died in battle.

As these heroes of the old wars have assembled each year their ranks have grown thinner and their forms more stooped, and we have thought sadly that in a few more years no living soldiers would march in our parades. But this year the ranks will be filled with young men, worthy sons of their fathers, as brave soldiers as ever went forth to battle and returned victorious.

The events of the last few years, which have touched us all so closely, have brought home to this generation as never before a realization of the price that has been paid for our freedom. Our own experiences have taught us to sympathize with those who have given their loved ones, to honor those who have made the supreme sacrifice, and to honor and rejoice over our returning heroes. But it will after all be only empty sentimentality if it does not leave us with a firm resolve to keep inviolate the trust that has been transmitted to us, to be true to the ideals which have been worth so great a price, and to serve in peace as they in war served our country's need, forgetting our own selfish personal or class interests in the desire for the larger good of all.

Good silage will cut the feed bill one-half.

SILAGE FOR BEEF CATTLE

Silage is Essential in the Economical Production of Beef

THE silage-fed steer with the grass-fed steer is becoming increasingly important in the production of our beef. There was a time when the buying interests discouraged the feeding of silage to beef cattle. It was thought to be all right for milk production, but a failure as a factor in feeding and finishing beef cattle. But that is now all changed. Everywhere silage is being recognized as absolutely essential if we are to use the cheap feeds of the farm to the best possible advantage in the production of beef. E. W. Houx, president of the Kansas City Live Stock Exchange, who can be considered as distinctly representative of the stockyards view, most forcefully presented the question of silage as a feature of economical beef production at the cattle feeders' meeting held in Manhattan last week. "Hay has advanced to prohibitive prices as a cattle feed," said Mr. Houx. "Any kind of first class hay is selling in Kansas City at \$40 a ton. Who can afford to feed large quantities of this kind of roughage in the production of beef when it is selling at our central markets at 2 cents a pound? Can you charge a beef steer 50 cents a day for roughness, adding 50 to 75 cents a day for the concentrated part of the ration, and expect to compete with the man who feeds silage heavily, using comparatively small quantities of cottonseed cake or linseed oil meal as a supplemental concentrate? I dare say no sane cattle feeder would attempt to follow such a practice, and I predict that the day of cheap feeds of any kind is gone forever.

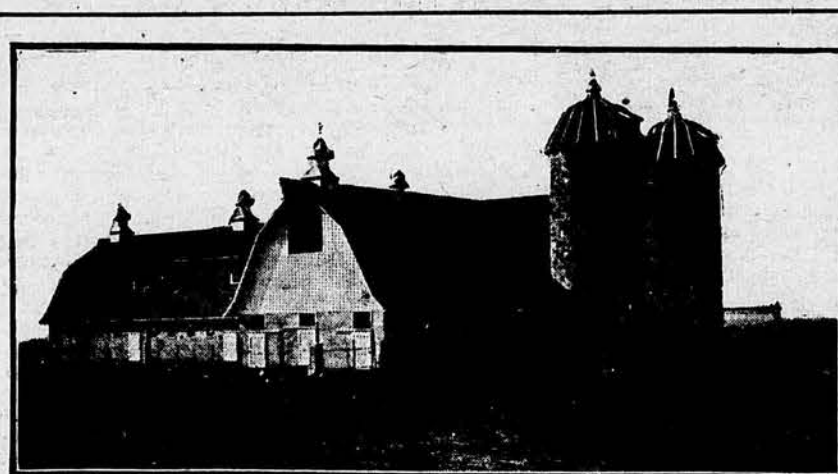
"Many years ago the dairymen of the East discovered that they could produce milk during the winter months in greater quantities and much more economically by the use of silage. Later, farmers who had young stock to winter began using silage. Then when hay and roughness got higher, the farmers began experimenting on silage for beef cattle. These experiments all proved to be successful and today a farmer in the corn belt, or where corn forage is grown, is behind the times if he does not have a silo. You can almost gauge the prosperity of any neighborhood by the number of silos you see towering toward the heavens. A farmer having one silo is more prosperous than the man who has none; and the man who has two silos is very apt to become the owner of the farm that has no silo, other things being equal.

"I will not say that a farmer cannot prosper without a silo, but I do say that he cannot get the best results from his farm operations without a silo. Sooner or later the man without a silo will find himself falling behind, with his soil impoverished and the high cost of production barring him from going forward as he should. The man who knocks on a silo is frequently the man that has no silo; or if he has one, he is too indifferent to cut feed and put it in properly.

"We hear every once in a while about a man who did not fill his silo or was not going to fill it any more, but if you will go to his farm you are very likely to find everything out of joint and the farm buildings dilapidated. He probably does not believe in vaccinating for black-leg, and in all probability does not believe in hog cholera. He naturally would not believe in a silo, and would probably insist that the world is flat because it looks flat to him.

"Our experiment stations have been testing silage as an economic feed for beef cattle. I believe we are now beyond the experimental stage and that every up-to-date farmer will concede the necessity of having silage for winter feeding of cattle. I feel safe in asserting that the time has come when beef can not be produced during the winter season without silage.

"I am not advocating any particular kind of silo. I have no interest in any silo manufacturing concern; but some sort of a silo is absolutely necessary. Build it high toward the heavens as a monument to your enterprise and prosperity, if you can; dig it in the ground and cover it over, if you must; but, by all means, build a silo. The initial cost of a silo is trifling as compared to its benefits. It can be made attractive and ornamental on a farm, and it should be



"THE SILO IS ONE OF THE NECESSITIES OF THE AGE, AS IS THE AUTOMOBILE, THE BINDER, AND THE TRACTOR"

constructed with reference to ornamental beauty as well as utility, because it bespeaks prosperity and enterprise in the neighborhood.

"Feeding silage to cattle is more nearly akin to feeding on the grass than any other system. If you have plenty of silage and are willing to make a long feed, you can feed a steer 200 days with a ration of linseed or cottonseed meal and make a very cheap gain. On the other hand, if you want to feed a heavy grain ration and mature the animal in half the time, you can do so. A steer fed 100 days on grain and silage will make about the same gain as a steer fed 200 days on a silage ration balanced with cottonseed meal. About the same thing is true of feeding on the grass. A heavy grain ration on grass will finish a steer in about half the time that a straight grass ration will finish him. It is recognized that the grain-fed steer carries a better finish and harder flesh, and usually commands a higher price. But for economy of production we all must concede that the grass-fed steer and the silage-fed steer are in a class to themselves.

"A silo is just as essential to farming as modern machinery. We would consider a farmer away behind the times if he didn't have a manure spreader and who moved his barn and barn lots when the manure became so deep he could not wade through it any longer. We would consider a housewife away behind the times if she did not have a sewing machine and other modern conveniences around the house. She could sew with a thimble and needle, but she is not doing it that way. Neither is a good farmer going to be long without a silo. It is one of the necessities of the age, as is the automobile, the binder and the tractor.

"We must not, however, expect the impossible from the silo. You can take nothing out of the silo that you do not put into it. If you put good feed into it you will take good feed out, and if

you put poor feed into it you will take poor feed out. The deterioration amounts to very little. We cannot get away from the Biblical statement that 'Whatsoever a man soweth, that shall he also reap.'

"The sugar beet country in the West is producing beef cattle on pulp at a comparatively low cost, and our farmers in this great Middle West in order to compete with this sugar beet country must make their winter feed at a lower cost or go out of the winter-feeding business.

"The packers today are buying corn-fed cattle at less per hundred than they paid for grass cattle of the same weight and quality last summer. They did the same thing a year ago, and they have done the same thing every year that I can remember, with possibly one or two exceptions. They give us a great many reasons for this, all of which seem perfectly satisfactory to them but not entirely clear to the balance of us. But the fact remains that they hold both ends of the string, and the producer must 'dance to their music.'

"The packer tells us sometimes that silage-fed cattle do not kill well. This may be partially true. They also frequently tell us that grass-fed cattle do not kill well, but I have yet to experience the sensation of having a packer tell me that any of the cattle I sold him killed well.

"The farmer works a whole year to produce a big crop of corn, harvest it, put it in his silo, feed it out to a bunch of cattle, and ship them to market, and his commission man sells them as best he can, and in about a week in answer to his inquiry as to how his cattle turned out, he gets a letter from his commission man saying the report from the packer is that the beef lost him money. Now the only thing to do to save these packers from ruin is to produce this beef more economically so we can sell it at a price that the beef will, at least, play even. So I say the silo will go a long

way toward solving the packer's problem as well as our own.

"It has been estimated that the corn stalks which go to waste in the state of Iowa would if put in silos winter all the stock cattle of that great state. This is true of Iowa, it is more or less true of the other 'corn-producing states. The feed that goes to waste would be succulent and appetizing if put in a silo and would increase the number of cattle on farms very materially. We are told that the population is increasing rapidly and that the number of farm animals is increasing very slowly, if at all. This is due to the fact that it takes broad acres to raise cattle, and the 'man with the hoe' is encroaching upon our cattle ranges. With plenty of silos we can soon increase our production of cattle in proportion to our increased population.

"Every county should organize a silo association and get the banks to form a silo fund, loaning money for the building at a moderate rate of interest. If this were done, I predict now that within five years this money would be returned in the way of deposits many fold.

"When a farmer plants a crop, he bets on the weather; he bets on fire and pestilence, together with wars and famine. The balance of us do not take such long chances as the producer, and we should encourage him along every line toward more and better production."

Dairy Bull Associations

Last June there were forty-four dairy bull associations in the United States and several have been organized since then. They are doing excellent work. All the records sent to the United States Department of Agriculture indicate success. Without exception they show an increased income without increased cost.

The New Windsor (Maryland) Bull Association has furnished production records of dams and daughters for three successive years. Each year the daughters have produced more milk and butter fat than their dams, which demonstrates that the bulls were well selected. Of the twenty-one daughters of association bulls for which the 1918 records are available, sixteen excelled their dams in butter fat production and fifteen excelled their dams in production of both milk and butter fat.

The average yearly production of the dams was 5,560 pounds of milk and 210 pounds of butter fat. The average yearly production of the twenty-one daughters was 6,523 pounds of milk and 263 pounds of butter fat. In milk production the daughters excelled their dams by 93 pounds or 17 per cent, and in butter fat production by 44 pounds, or 20 per cent. These are not as large gains as some other bull associations have given, but are well worth while, as they are made without additional cost.

Because of co-operative ownership the bulls cost the farmers no more than would have been paid for scrubs, it costs no more to feed the daughters than to feed the dams, and it costs much less to feed the bulls because there were not so many of them. The increased production, therefore, was all net profit.

The right of farmers to organize for collective bargaining in the selling of their products is now being tested in the courts. Organized labor has long been accorded the right to bargain collectively, but the effort of 16,000 milk producers supplying milk to Chicago to organize for cost of production prices is being considered as criminal and these men are being investigated under the Sherman anti-trust act. The charge is made that these producers are attempting to form an organization to better mine the prices of their milk, butter and cheese. The results of this perversion of the 'real intent of the Sherman anti-trust act will be watched with the keenest interest by farmers all over the country.

The tomato is closely related to the potato, and while the actual food value of the tomato is not so great as that of the potato, it has certain qualities that make it one of the most desirable of our garden crops.

Silage Feeding Test with Two-Year-Old Steers, Feeding Period 110 Days

TEN STEERS PER LOT—	Lot 1	Lot 2	Lot 3	Lot 4
Average initial weight—pounds	944.92	949.6	960.2	963.1
Average final weight—pounds	1309.44	1303.83	1259.83	1296.67
Average daily gain—pounds	3.31	3.22	2.72	3.03
AVERAGE DAILY RATION—				
Corn—pounds.	15.31	15.12	7.66
Oil meal—pounds	2.72	2.68	2.71	2.69
Alfalfa—pounds.	13.0	2.95	2.98	2.95
Silage—pounds.	26.11	42.36	60.55
Cost of 100 pounds gain.....	\$21.48	\$20.46	\$18.96	\$12.33
Labor cost per steer	4.55	4.55	4.55	4.55
Interest on investment per steer (8%).....	5.47	5.35	5.01	4.64
Interest on equipment per steer (8%).....	.93	.93	.93	.93
Selling price to break even	17.83	17.51	16.97	15.29
Buyer's bid—Manhattan	14.65	14.75	14.75	14.25
Profit or loss per steer.....	-41.63	-35.94	-38.02	-13.44
Hog profit per steer	3.87	2.99	1.87	-.42
Total profit or loss	-37.76	-32.95	-36.15	-13.86

Buyer bid 75 cents below Kansas City market to cover cost of shipping.

Price of feeds: Silage, \$8 per ton; alfalfa hay, \$30 per ton; linseed oil meal, \$65 per ton; corn, \$1.58 per bushel.

GOOD PROFIT FROM BABY BEEF

Calves Full-fed Grain With Silage Return \$19 a Head

THE calves fattened at the Manhattan Experiment Station the past season in a baby beef feeding test comparing the value of cane and corn silage made a good profit over cost of feed and other items of expense. At the end of the 110-day period the selling price was almost as high as that offered for the two-year-old steers fed in the same way and through the same period. The two-year-old steers, however, lost the experiment station an average of \$32.95 to the steer, while the calf returned a profit of \$19.07.

This test in comparing the two kinds of silage as fed to animals being finished for baby beef was also reported at the cattle feeders' meeting held last week at the agricultural college. Studies in the comparative feeding value of cane, kafir and corn silage have been made at the Kansas Experiment Station extending over a period of three years and it has been shown that the cane or kafir silage has practically the same feeding value, pound for pound, as corn silage, and the yields have been about 35 per cent more as an average for this period.

The season of 1918 was particularly unfavorable and both cane and corn were necessarily harvested in a very immature condition on the experiment station farm. The conditions in that immediate vicinity were worse than in some of the surrounding territory. The test the past season was planned to determine, if possible, the feeding value of silage made from cane and corn grown under these very poor conditions. The hot dry weather of August was drying up the corn and it was harvested and run into the silo in a very immature condition in order to save it. The cane hung on better, but did not mature seed and made little growth. It was harvested about two weeks later than the corn.

The calves used in the test were purchased from the Hays branch experiment station and were divided into two lots of fifteen head each. The plan was to feed a full ration of corn, alfalfa hay and silage, and approximately one and a half pounds of linseed oil meal to each calf daily. One lot was to be fed the cane silage and the other the corn silage. As the feeding period advanced the silage was increased until an average of twenty-seven pounds daily was being consumed by each animal. The calves in the cane silage lot would have eaten more, but those in the corn silage lot stopped at the twenty-seven pounds and those in the other lot were limited to that amount of cane silage. The cane silage was evidently more palatable. Chemical studies which were made of the two kinds of silage from day to day showed that the corn silage averaged 20 per cent more acid than the cane silage. The cane silage also contained 5 per cent more actual dry matter.

The average daily corn ration consumed by each calf for the 110 days of the test was 8.13 pounds in the cane silage lot, and 8.15 pounds in the corn silage lot; the average oil meal daily per calf was 1.54 pounds in each lot; alfalfa hay, 3.42 pounds, and silage 19.76 pounds in the cane silage lot and 19.75 pounds in the corn silage. As stated, the plan had been to feed identical rations to the calves in each lot, with the exception that one was to receive the cane silage and the other corn silage.

The cane silage calves made an average daily gain per head of 2.92 pounds, and the corn silage calves 2.87 pounds. The cost of a hundred pounds of gain in the cane silage lot was \$13.97, and in the corn silage lot \$14.22. Labor was charged at the rate of \$3.78 a calf. Interest on investment at 8 per cent amounted to \$2.20 a head in the corn silage lot and \$2.19 in the cane silage lot. Interest on the equipment, at the rate of 6 per cent, was 60 cents a calf in both lots.

The cane silage calves could have been sold for \$12.04 a hundred at the feed yards, ignoring hog profits, and come out even, and the corn silage calves could have sold for \$12.12 a hundred and broke even. The actual bid made by the Kansas City buyer was \$14.25 a hundred on both lots, this being 75 cents lower than the price would have been in

Kansas City, this allowance being made to cover the cost of shipment and marketing. Adding a hog profit of \$1.85 a calf to the cane silage lot gives a profit of \$19.07 a head, and adding the hog profit of \$1.91 a calf to the corn silage lot makes the average profit on each calf in that lot \$18.47.

Feed prices were figured the same as in the feeding of the two-year-old steers, alfalfa \$30 a ton, silage \$8, linseed oil meal \$65, and corn \$1.58 a bushel. While it was not the original plan to make any definite comparisons between the feeding of cattle of different ages, Doctor McCampbell in reporting on the test at the meeting called attention to some interesting comparisons which might be made. There were ten two-year-old steers in the test fed exactly the same way and exactly the same rations as one of the lots of calves. These steers consumed an average daily ration per animal of 15.12 pounds of corn, 2.68 pounds of linseed oil meal, 2.95 pounds of alfalfa hay, and 26.11 pounds of cane silage, and gained at the rate of 3.22 pounds a head during the 110 days of the test. The cost of a hundred pounds of gain made by the two-year-old steer amounted to \$20.46. The calves, on the other hand, consumed an average daily ration of 8.13 pounds of corn to the animal, 1.54 pounds of oil meal, 3.42 pounds of alfalfa hay, and 19.76 pounds of cane silage, and gained at the rate of 2.92 pounds per calf daily. The cost of a hundred pounds of gain on the calf was \$13.97, or \$6.47 less than it had cost on the two-year-old steer. Including all the items of cost and the profit made from hogs, the two-year-old steer had lost the station \$32.95, while the calf had made a profit of \$19.07.

The fact that the two-year-old steers consumed 65 per cent more corn, 55 per

cent more linseed oil meal, and 10 per cent more roughage to produce a hundred pounds of gain, is worthy of note in connection with the finishing of cattle for market. It must not be overlooked, however, that the initial cost of the feeder and its value on the market when finished is an important factor. The calves of this lot, which weighed an average of 457 pounds when the experiment started, represented an initial cost in the feed lot of \$42.28, or approximately \$9.25 a hundred. They were valued by the buyers at the end of the feeding test at \$14.25 a hundred. The two-year-old steers, on the other hand, had cost \$14.60 a hundred in the feed lot, and the buyer's bid was only 50 cents more than on the calves, or \$14.75 a hundred. There seems to be something radically wrong with the marketing end of the business when a slump of two dollars a hundred can take place in less than ten days without any apparent cause. During the latter part of April, when many cattle were about ready for market, the price began to drop, although during the same period the average wholesale price of beef carcasses was advancing. It is only through a thorough organization of producers and feeders that such a condition can be corrected. These organizations are doing a great work along this line.

Washington Headquarters

Every great business other than farming is powerfully represented at the national capital and is adequately financed to carry on its work. The Chamber of Commerce of the United States, for instance, with nearly 100 efficient and well-paid workers, occupies extensive quarters in the Riggs Building across the street from the Treasury Building. As a result it is able to keep

its finger upon the pulse of the nation's business—this includes agriculture—and flash its wires out to thousands of its members and to its agents stationed in every business center of the civilized world. For several months past it has brought together representatives of various groups of people into conferences on the transportation problem. With fine hospitality it entertains its guests during these conferences, frequently paying the traveling expenses of noted economists who otherwise would not be able to attend these meetings. The Chamber of Commerce knows that it pays well to do this sort of work.

Organized labor likewise accomplishes what it sets out to do. Its delegates have been received with the greatest deference and respect by the rulers of the countries now sitting in conference and deciding the future destinies of mankind and its demands have been acceded to by the framers of the proposed constitution of the League of Nations.

The National Chamber of Commerce and the American Federation of Labor would not occupy their powerful positions unless they received strong financial backing from their constituent members.

Is there any reason why the farmers of this nation, especially the farmers who belong to the organizations in affiliation with the National Board of Farm Organizations, cannot contribute financial support to a movement which as time goes on can exert as powerful an influence as that of any other group of people?

Look back over the last two years and see how many people there have been here in Washington in a position of trust and responsibility in connection with the Food Administration or other war boards who have been identified with the "self help" movement among farmers—men who fully understood your problems and could fairly be said to be in sympathy with the needs of the average farming community. I have been in Washington since last June and have tried to familiarize myself with the situation, but I cannot offhand name a half dozen such men who have been included in the war activities or in the mapping out of governmental policies.

The fault lies partly with the pressing insistence for representation of those groups who already are strongly organized and can call almost at a moment's notice upon one of their number to give attention to the work at hand. But far more important than this, I believe, is the fact that the organized farmers of America are unprepared to meet emergencies as they arise, having no common treasury from which to pay the salaries or defray the expenses of men coming from their own organizations.

When you have adequate headquarters here at the national capital with your own representatives working continually in your interests, you will find that your representatives will be consulted frequently and included in the undertakings of the government.

Sympathy at long range from one's friends gives one a comfortable feeling, of course, but in order to carry on the work of this office it is necessary to have financial assistance also, and I trust no one will take offense at my suggestion that now is an appropriate time for you to either personally or through your organization lend such assistance.

A folder has been prepared giving the plan of the National Board of Farm Organizations for the erection and endowment of headquarters in Washington. These will be supplied on request to individuals or local farmer organizations. —CHARLES A. LYMAN, Secretary, National Board of Farm Organizations, 615 Woodward Building, Washington, D. C.

Silage is a splendid stock food. It gives tone to the animal. It is a laxative and a splendid conditioner.

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WASTES IN LIVE STOCK FARMING

I WANT to emphasize at this time, as I have before, that the future success of the live stock industry depends upon the application of modern principles of business economy. No longer will it suffice to follow a hit or miss system. The live stock man of today must study the markets, must seek constructively to aid in evolving a better marketing system for live stock as well as for all agricultural products, must keep a sharp eye out for unnecessary expenses in operation, and particularly must endeavor to eliminate wastes in production.

One of the most common forms of waste in Kansas agriculture is failure to utilize barnyard manure as fertilizer in growing feed and grain crops. Practically every live stock man is engaged in general farming to the extent at least of producing as much as possible of the annual feed requirement. This is the normal manner of conducting a live stock business and permits the establishment of an economic circle, forming the best guarantee against loss.

Another source of waste in Kansas agriculture, whether the stress is laid on live stock production or grain production, is that of the by-products such as wheat straw, corn and sorghum fodders, and even weeds. If the Kansas wheat crop for 1919 fulfills its promise of reaching the 200,000,000-bushel mark, there will be produced for every bushel of wheat two pounds of straw, or 200,000 tons. This amount of wheat straw contains nitrogen, phosphorus, and potassium, taken from Kansas soil, worth at present market prices not less than \$2,360,000.

Another opportunity for eliminating wastes from the farm live stock business that I wish to emphasize is that of growing crops that best resist drought and produce the most feed per acre. This is where the sorghums come in. Sorghums have demonstrated their ability to resist dry weather and produce a supply of feed when other crops fail. The season of 1918 our corn at Manhattan yielded 3½ tons, kafir 7 tons, and sweet sorghum 9 tons of silage per acre. In a three-year feeding test with calves it was found that the average gain in weight per acre from silage was 1,039 pounds for corn silage, 1,013 pounds for kafir silage, and 1,376 pounds for sweet sorghum silage. Nor is the grain of the sorghums less effective than sorghum silage as feed for live stock. Tests conducted by the experiment station show that for all practical purposes a pound of sorghum grains—kafir, feterito, and milo—is equal in feeding value to one pound of corn.

Disease is another source of waste against which the live stock man must constantly guard. Two diseases—blackleg and hog cholera—that in the past ever threatened the live stock grower, have succumbed to science and are now controllable with the vaccines that have been developed. While both the anti-hog cholera serum and the blackleg vaccines are now manufactured by commercial plants, we feel that it is important that this institution continue their manufacture in order to set a standard of purity and excellence which the commercial plants must meet, and to keep the price within bounds.—From Pres. W. M. Jardine's Address of Welcome at the Cattle Feeders' Meeting.

GENERAL FARM AND STOCK ITEMS

Something of Interest for All—Overflow from Other Departments

IT is not always easy to get alfalfa started in soils of Eastern Kansas. J. E. Payne, of Parsons, tells of visiting the farm of Fred Perkins near Oswego recently, where he noticed some alfalfa growing on a field of gravelly loam upland. Inquiry developed the fact that it had required some carefully planned previous cropping and fertilization to get the soil in condition to grow alfalfa. In telling of this preparation work Mr. Perkins said, "The field was in cane and cowpeas for several years and considerable barnyard manure was spread on it during that time. In the spring of 1917 it was sown to sweet clover, but as we had some alfalfa seed on hand I had the boys mix in enough of this with the sweet clover seed to make about three pounds of alfalfa seed to the acre. In 1917 one fair crop of hay was taken from the field and in 1918 one heavy crop and two light crops of hay were taken off. By that time it was past midsummer and the sweet clover was dead, but there was a good stand of alfalfa left. A part of this was cut again late in the fall. On this portion of the field the alfalfa winter-killed badly, but the part which was not cut late lived and now shows a good, even stand. Two tons of ground limestone to the acre was put on the field after the sweet clover was sown."

A Friend from Africa

Frequently the new crop with a high-sounding name introduced by high-pressure exploitation before its value has been proved, brings disappointment. Sometimes very high prices are paid for seed of some of these much-exploited new crops. It turned out so with American kafir and African millet. They were most flatteringly introduced, but did not do so well as some of the sorghums we already had.

The Sudan grass, a sort of modest, slender little country cousin to the sorghums, came quietly in from Africa in 1909, creating little stir at the time. At the Fort Hays Experiment Station it has been grown every year since 1913 and the station men are recommending Sudan grass as a crop with which every stockman should become acquainted. At Hays it has yielded on an average one and a half tons to the acre. The hay has been found especially valuable for work horses, but not quite equal to alfalfa hay for other kinds of stock.

Sudan grass should be planted and handled like cane or others of the sorghums. It will yield only about three-fourths as much forage to the acre as the red amber sorghum, which is especially adapted to Western Kansas, but its stems are so much finer that many stockmen prefer it, even though the yield is somewhat less.

Weeds and Corn

Every farm crop must compete to a greater or lesser extent with weeds, and too often the weeds seem to hold the balance of power. They are constantly drawing on the plant food and moisture when frequently there is barely enough for the crop. The cultivation of corn, kafir or other similar crop is primarily a fight against weeds. Formerly considerable attention was given to the theory that the maintaining of a soil mulch was the primary consideration in cultivating corn and other similar crops, but careful tests made at our various experiment stations are emphasizing more and more that killing the weeds is after all the principal purpose of cultivation.

Of course it can be shown that cultivation is a factor in controlling the loss of moisture from evaporation in some cases, but many experiments all over the United States have shown that this is a very small factor in the results to be accomplished in cultivating corn. In 125 experiments covering twenty-eight states it has been found that corn which simply had the weeds shaved off with a hoe produced 95 per cent as much grain as where it was cultivated in the usual way. Of course it is as easy and as cheap to produce the soil mulch while killing the weeds, but these experiments most surely emphasize the necessity for killing weeds. In summarizing these same tests it is found that

only one-seventh to one-third of a crop could be produced where the weeds were allowed to grow without any effort to control them.

It is not an easy job to keep ahead of the weeds. The methods to employ will differ with the kind of soil and the season. Those who are able to plow early and then through careful preparation of the seed bed kill off many of the weeds in the germinating stage find it a much easier matter to control them after the crop is growing. While the crop is small the harrow or weeder can be used in killing small weeds as they are in process of germination. As the corn increases in size the character of the cultivation necessary to keep the weeds down must be determined largely on the basis of killing them with as little damage to the roots of the corn as possible. Shallow cultivation has repeatedly been demonstrated to be better than deep cultivation after the corn roots have begun to fill the soil between the rows. Some types of cultivators with weed-cutting blades have been found very satisfactory on some types of soil. These blades give the best results when they can be run just under the surface, thus producing a shallow

ume hays are fed alone. On this combination of silage and alfalfa or other legume hay heifers more than nine months of age as a rule make normal growth during the winter season. Calves younger than this need some grain in addition or they will not make the growth they should. When heifers have access to silage and legume hay they usually eat about two pounds of silage and one of hay.

The Missouri tests showed that fair results may be obtained from silage alone when alfalfa or other legume hay is not available. It is necessary, however, when feeding silage as the only roughage to add about two pounds of concentrates daily to each heifer and at least half of the concentrate should be a high protein feed such as linseed oil meal or cottonseed meal. The remainder of the concentrate ration can be corn or other grains, whichever may be cheaper. It was also noted that young growing animals having free access to silage will be more contented and thrive better if they can have a little dry feed such as straw, corn fodder or any kind of cheap dry feed.

Another combination is all the alfalfa or legume hay the heifers will eat, sup-



THESE boys of a Riley County state pig club are holding their regular monthly meeting on the farm of the local leader, George Wreath, a well known breeder of pure-bred hogs. An empty hog crate is being used by the president and secretary as a desk. Reports made showed that ten sows had farrowed and seventy-eight pigs had been saved. Both Poland China and Duroc Jersey sows are owned by members of this most active sow and litter club. Paul Imel, state pig club leader, who was present, gave the members some valuable suggestions on the selection of breeding hogs and hog feeding and management, using some of Mr. Wreath's stock to illustrate the points made. After the business and instructional features of the meeting the members got busy at a game of baseball.

mulch and cutting off all the weeds without injuring the roots of the crop. This type of cultivator can sometimes be used on heavy soils that are inclined to be wet.

Controlling weeds on a farm is a matter that cannot be accomplished without carefully planning crop rotations and such other methods of intelligent cultivation and tillage work as will attack the weeds throughout the year.

Feed for Young Heifers

If you are adding young heifers to your dairy herd this spring, you should by all means plan in advance at the season for planting crops so as to be sure to have plenty of the right kind of feed to properly develop them the next winter. A dairy heifer cannot be grown out into a profitable milk cow unless she is properly fed during the growing and developing period. Some good suggestions on the kind of feed to plan for come from tests made in the feeding of young heifers at the Missouri Experiment Station. Seventy-seven animals were used in this test, which extended over six winter seasons. The most satisfactory ration of all those tried consisted of giving the heifers free access to silage, legume hay limited to about six pounds daily, and two pounds of corn daily to each heifer. On this kind of a ration dairy heifers of all ages thrived and made gains somewhat above the normal.

Silage and legume hay both fed at will also make a most practical combination resulting in considerably larger gains than when alfalfa or other leg-

plemented with two or three pounds of corn or other grains daily. These tests in heifer development at the Missouri station show that this is an entirely satisfactory ration for heifers of any age from six months to within a few weeks of freshening.

There is probably no one single feed that will be more useful in properly and economically growing out young heifers than silage. The value of silage has been abundantly demonstrated, and no one who is developing dairy cattle should think of getting through another winter without a silo of some kind if he can possibly raise the money to build one.

Washington on Farm Life

Returning to Mount Vernon after the surrender of Cornwallis, George Washington wrote to Lafayette:

"I have become a private citizen on the banks of the Potomac in the shadow of my own vine and my own fig tree, free from the bustle of camp, and the busy scenes of public life. I am solacing myself with those tranquil enjoyments, of which the soldier, who is ever in pursuit of fame—the statesman, whose watchful days and sleepless nights are spent in devising schemes to promote the welfare of his own, perhaps the ruin of other countries, as if the globe was insufficient for us all, and the courtier, who is always watching the countenance of his prince in the hopes of catching a gracious smile—can have very little conception. I have not only retired from all public employment, but am retiring within myself, and shall be

able to view the solitary walk, and tread the paths of private life, with heartfelt satisfaction. Envious of none, I am determined to be pleased with all and this, my dear friend, being the order of my march, I will move gently down the stream of life, until I sleep with my fathers."

Postage in Old Days

The warmth of welcome that awaits the return of the 2-cent postage stamp to general use in the United States, now expected in June, would be all the warmer if more people knew by personal experience how much cheaper postage is than it was a hundred years ago in the republic. Postage was then paid in cash, for there were no stamps at all until the faces of Franklin and Washington became familiar on the 5-cent and 10-cent stamps issued in 1847, and postage was figured by distance. One sheet of paper was considered a letter, and it cost 6 cents to send such a letter not over thirty miles; 10 cents for not over eighty miles; 18½ cents for not over 400 miles; and 25 cents for a longer journey. No wonder the people of the time practiced a small economical handwriting! And even so, one had to go to the post office to get the letter, for free delivery came in only in Lincoln's administration. —Christian Science Monitor.

Killing Peach Tree Borers

B. S. R., of Bourbon County, asks about destroying the insects causing the gummy or jellylike substance to ooze from his peach trees. This is caused by the work of the peach tree borer, a small yellowish white worm about an inch long. The only way to get at them is to dig them out with a sharp knife, but they may be killed by the use of sharp-pointed pliable wire which can be shoved into their burrows under the bark. It is also a good plan to remove the soil from the base of the tree to a depth of three or four inches, dig out all the borers found, and then build a mound of soil about a foot high about the tree trunk. This will cause the female to lay the eggs high up on the tree. The borers can then be more easily reached and destroyed before they do serious damage. It requires constant watchfulness to keep these borers from working such havoc in the trunk as to kill the tree.

Take Care of Your Bulbs

When your plants are through flowering the bulbs should be carefully taken up and stored in a cool place until next fall, says M. F. Ahearn of the horticultural department of our agricultural college. This should be done as soon as the leaves show signs of turning yellow.

Occasionally it is necessary to dig bulbs before the tops have fully ripened. In this case they should be tied in bunches and suspended from rafters in the storage room.

In October the bulbs should be planted again in the open to be ready for next spring's flowers. To avoid digging bulbs many people plant them deeply so that summer flowering plants may be planted in the bed without disturbing the bulbs. When the summer plants are dead great care should be exercised in removing them from the bed or bulbs may be disturbed. The safest method of doing this is to pull the plants from the ground.

The calf crop can be increased by the use of more bulls. On the large ranches and farms where more than one bull is maintained, the purchase of a few more bulls may be a move in the right direction. When it is realized that a bull under average conditions will sire from twenty to twenty-five calves per season, and that the calf crop under many conditions can be materially increased by the use of an additional bull, it is a shortsighted policy not to provide the extra sire. It is far cheaper to feed an extra bull than to board a number of calfless cows.

"My boy," said a father to his son, "treat everybody with politeness, even those who are rude to you, for remember that you show courtesy to others not because they are gentlemen, but because you are one."—Our Dumb Animals.

With the Cow-Testing Associations

KANSAS is very rapidly coming to the front in cow testing work, according to the reports being made from time to time by W. E. Peterson, field agent in dairying, who is assisting over the state in the organizing of new associations. There are seven now operating and five others are ready to start as soon as a man can be employed for the testing. A number of others are in the process of organization. The principal difficulty in expanding the work is the inability to get men to act as testers.

Harper County has recently made its first report. Only five herds have been tested, but the report states that thirteen pure-bred cows have been purchased by members during the month.

The Arkansas Valley Association takes pride in reporting that every member has a high class pure-bred sire at the head of his herd, and that fifteen of the sixteen members have herds which are either all or partly pure-bred. Six pure-bred and ten grade cows were sold during the month reported, and nine pure-bred cows were purchased. Louis Koenig, a member of the Dickinson County Association, paid \$1,060 for a cow at the Wilcox sale in Topeka, the highest priced Holstein cow sold in a public sale in Kansas. Engle Brothers sold ninety-nine head at a public sale at an average of over \$130 and over half of them were calves and heifers under milking age. The prices paid indicate the recognition given to the records that have been kept in this herd. Fifty-five of these animals remained near Abilene.

The Oswego association, one of the newer ones, reports that six unprofitable grades were sold during the month as a result of the testing work. H. E. Voerner, the tester, located two faulty separators during the month, testing in all eleven samples of skim milk. The members of this association also cooperated in buying a carload of alfalfa.

A most interesting report came from a member of the Arkansas Valley Association on the results obtained in pasturing sweet clover. E. V. Swinehart Mulvane pastured thirty-one head in thirteen acres of sweet clover during March, feeding hay as a supplement for only three weeks. This is the third year that this field has been pastured, having reseeded itself each year. It was very heavily pastured last year, but came out with a perfect stand this spring. George Appleman, also of Mulvane, has used sweet clover as a pasture for a number of years and values it very highly.

The summary of the various association reports for March shows that Louis Koenig of Dickinson County has the highest herd average of butter fat production, or 48.1 pounds. Appleman Brothers of the Arkansas Valley Association come second with a herd average of 46.8 pounds of butter fat. Lecher & Engle of Dickinson County have the high cow for the month with a record of 78.2 pounds of butter fat; Appleman Brothers second with 75.33 pounds; Sam Carpenter of the Oswego Association third with 63.98 pounds, and Will Crenshaw of the Harper County Association fourth with a butter fat production of 53.53 pounds.

Treatment for Garget

A. F. B., Osage County, asks what to do for a cow troubled with garget, or having clotted or lumpy milk. The cow affected is a valuable one.

Garget is a disease of the udder which is quite often troublesome in dairy herds. Some cows seem predisposed to it and have it on the slightest provocation. The udder will swell up and get hard over night and seem quite feverish and the milk drawn will be lumpy. The application of hot cloths is a local remedy that will afford some measure of relief, but the trouble is infectious; that is, caused by a germ which gains entrance to the udder. Dr. R. R. Dykstra of the veterinary department of the Kansas Agricultural College suggests treating a case of garget by making up a solution composed of one-eighth ounce of formalin mixed with a quart of water and administering this as a drench once a day until ten doses have been given. Formalin can be bought at any drug store. It is a commercial product consisting of formaldehyde gas dissolved in water.

The infectious nature of garget is not

generally recognized and we would especially call this point to the attention of our readers who may have cases of garget to treat. It can be spread from cow to cow in the barn, and for this reason a cow affected with this difficulty should be milked last of all and the milk from the affected quarter should not be used in any way. Doctor Dykstra suggests destroying the milk from a gargety quarter by putting some hog dip into it.

Why Not a Pure-Bred Bull?

The scrub bull has no place in a modern dairy community. Some of the dairymen of Webster County, Missouri, evidently came to that conclusion and got together to see what could be done to eliminate the scrub. They found it had been costing them \$19.75 a year each for the service of a \$75 bull, and each man had a scrub bull around his place. They proceeded to organize a co-operative bull association, and it cost them only \$5.50 a year for the use of a \$260 animal. The members of the association now maintain only seven

bulls, while before they had been keeping eighteen.

These Missouri dairymen had been getting along as best they could with their scrub sires, each feeling that he could not afford to own a high priced animal. They finally came to the point, however, where they realized that no improvement could come until they put animals at the head of their herds sufficiently well bred to sire heifers that would produce more than their dams. In this community thirty-eight men interested in Jerseys met and formed a Jersey bull association. They divided the membership into seven well-arranged communities, or blocks, and purchased a bull for each block.

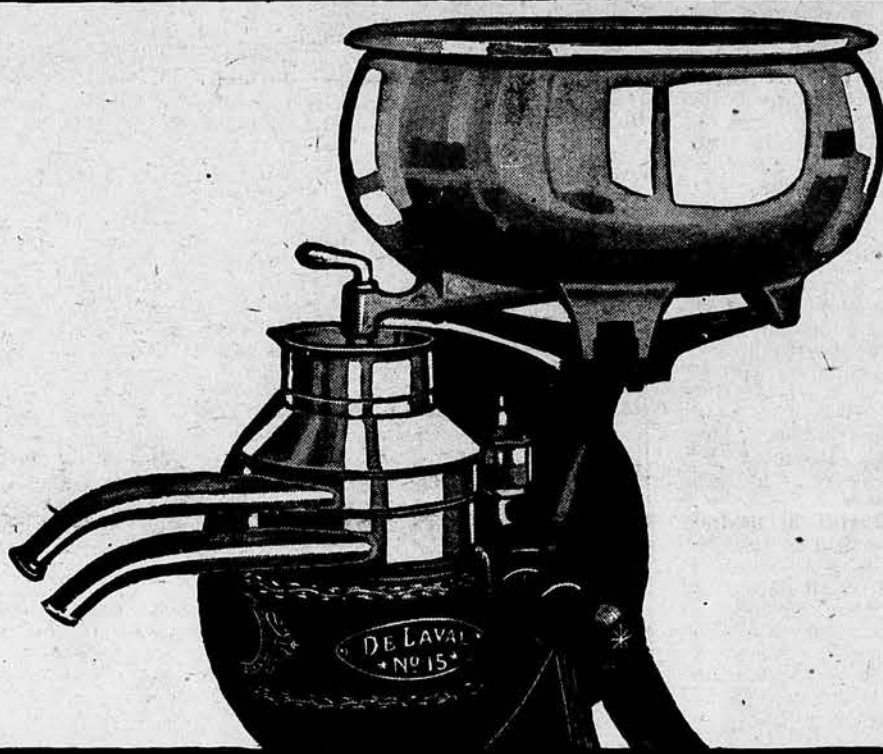
In selecting their bulls these men determined to be satisfied only with the best. One of their bulls is a son of the Imported Jap; another is a grandson of Springfield Owl's Eva with a record of 1,241 pounds of butter (80 per cent fat basis), and the rest are equally well bred. The average records of the dams of these bulls for four generations back is 622 pounds of butter, showing that they carry some of the best breeding to be had.

When one thinks of an animal of this breeding he immediately has visions of a fortune tied up in a bull. And yet

these men bought their bulls by simply levying an assessment of \$6 on each cow a man wished to breed to them. As has been stated, these seven communities purchased seven bulls. Every two years the bulls are alternated in numerical order among the community. So that with the original cost price a man has the use of such a bull for as long a time as these bulls are serviceable.

But the economy of bull service is only a minor point in comparison with other advantages these men are deriving. Through the use of these bulls they are building up their herds to a much more profitable standard. More than this, most of them are working gradually into the pure-bred business and are building toward a strong Jersey center. In this way, as a community, they can advertise and attract buyers that no individual could ever hope to do.

What has been done in this Missouri community can be done in any other community and with this or any other breed of dairy cattle. It is a practical business proposition that works, and that works to the advantage of all concerned. Why continue using the inferior sire when high class bulls can be provided at so little expense by a little co-operative effort?



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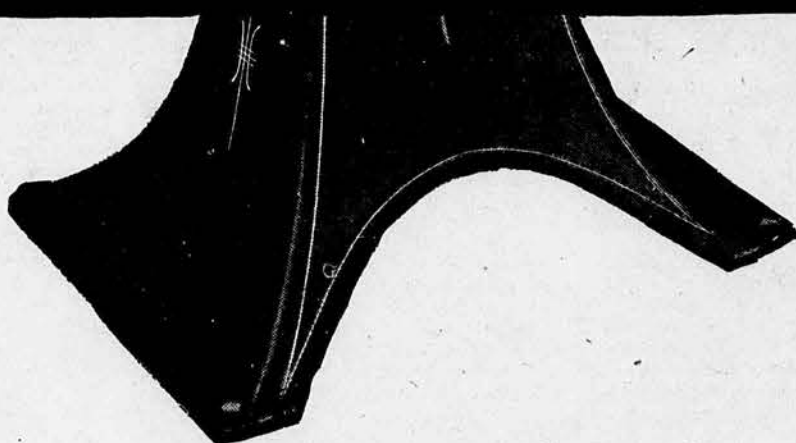
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Co-operative Legislation

Federal Anti-Trust Laws Need Amending in Interests of Farmers

By J. D. Miller, Vice President Dairyman's League, Before Conference National Board of Farm Organizations

WE DO not need any laws to assist us in production. The great problem facing the farmers today is how they can best and most economically market their products, and this topic of federal co-operative legislation is strictly germane and pertinent to that discussion. In many of the states there are anti-trust laws drastic in their provisions, severe in their penalties—laws which were enacted years ago for the purpose of curbing the great organizations that stand between the producers and consumers, and while in a measure ineffective for that purpose, they have, in these latter days when farmers have the temerity to organize to make group or collective sales, been invoked in some of the states to prevent such action on the part of the farmers. The federal anti-trust law, well known as the Sherman law, with its amendment known as the Clayton amendment, also prohibits combinations in restraint of trade so far as it affects interstate commerce.

Exempting Agriculture and Labor
By the provisions of the Clayton act—which was an amendment and largely a re-enactment with many additions of the Sherman law—by Section 6 of that act, it was the undoubted purpose of congress, however imperfectly expressed, to exempt farm organizations from the prohibitions of that act. In that section in identically the same language, and grouping them together, farm organizations and labor organizations are excepted. By the express language of that section, however, they exempt only such organizations of farmers and laborers who are organized without capital stock and not for profit. In many states—because you know these associations cannot be incorporated under the laws of the United States to square with Section 6 of the Clayton act, but must be formed and organized under the laws of the respective states—there are no laws authorizing the creation of the associations or corporations without capital stock. In other of the states there are certain co-operative acts, so-called, which authorize the creation of co-operation associations, but many of them are so imperfect in detail that the legal status of organizations created under them is still uncertain, although many of them have been on the statute books for years.

Labor Given Full Protection
It has been suggested that the federal anti-trust law, which can be invoked in any case where an association is dealing in a product which is shipped over state lines, should be amended so as to clearly give to farm organizations engaged in making group, collective or co-operative sales of their product the right to so operate. There is a difference of legal opinion as to the effect and the scope of the exemption given to farmers under the present Section 6 of the Clayton act. But mark this. Organized labor by the provisions of that section is protected in exactly the same language as are farm organizations. Organized labor is not satisfied with that protection and was not satisfied at the time of the enactment of the law, but by a subsequent section, which is Section 30, complete and adequate protection is given to labor organizations. This indicates to us the efficiency at that time of labor organizations and a lack of some concerted action and proper attention given to legislation by the farm organizations. There is a difference of legal opinion, but the consensus of opinion is that the protection afforded by the section is inadequate, that for co-operative associations of farmers to do what you men think they ought to have the right to do and to do it in the way they must do it to be successful, this anti-trust law should be amended so as to remove any doubt and make it clearly lawful for farmers' organizations to make such collective sales.

Not Wrong in Principle

Now, some of our enemies and even some of our good friends are saying that it is wrong in principle to exempt farmers as a class. To show the fallacy of such reasoning, permit me to use an illustration. I have in mind a man who

I know is a loyal friend of farmers and farmers' organizations. He is a member of the state senate of New York, in which state an effort is being made to repeal amendments which the farm organizations obtained last year to the state anti-trust acts. These amendments give farm organizations the clear right and power to make collective sales, but the laws are now being challenged and an attempt has been made to repeal them.

The senator said to me, "I am against the repeal of these laws. I voted for these laws but I wish I had a good reason for doing so." Now it is not at all difficult to find a good reason for such laws.

The Federal Department of Agriculture has for years been urging farmers to organize for the purpose of making collective sales. The departments of agriculture in the different states, in fact in many of the states, have been urging the farmers to organize for the purpose of making collective sales.

The day of collective bargaining has come and great improvements of that character never go backward, and I said to the senator, "Do you believe in the principle of collective bargaining?" "Oh, yes," said he. "You believe it is right—right in principle—for men to group themselves together for the purpose of bargaining?" "Yes," he said. "Well, then," I asked him, "isn't it right in principle to so frame the law that they can do it lawfully?"

The answer to any such criticism as that is that unless the intention is to move the hands on the dial of the clock backward and to declare unlawful the entire principles of group bargaining—an act which would make unlawful the labor unions and the collective sales of farm organizations—then by the same token it is right in principle to prescribe the terms and conditions of such sales, so that farmers who are grouping themselves together may do so lawfully.

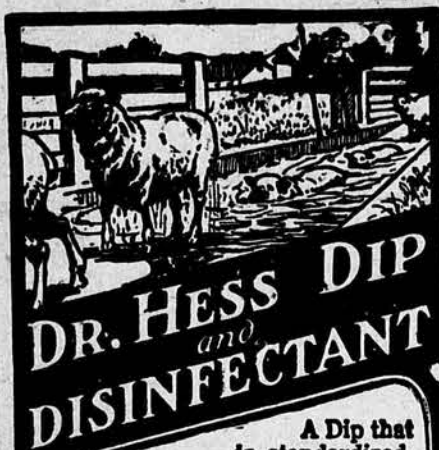
The National Federation of Milk Producers' Organizations, which is one of the member organizations of this body, at a meeting a few weeks ago appointed a legislative committee, with instructions to prepare and present to congress a bill to amend the anti-trust laws along these lines. Because of the multitude of things that have come up since that time, nothing has been done, and it is probably too late in the present session to do anything of that character. But I ask you when in the next congress bills of that character are introduced that you use every honorable means to persuade your representatives in congress not only to vote for those bills, but to work for them, for I say to you that unless the farmers of this country have that clear right, we will be handicapped beyond measure.

Work Out Own Salvation

Now, there are many things that have been said here yesterday and today which meet with the warm commendation of us all. The thought of improving the great waterways, of enlarging the railroads and the railroad terminals, of improving the public highways—all these thoughts are good; but this is the thought that I want to impress upon you as my profound conviction, namely, that all of these things are simply agencies to permit us to do a little easier the work that we and we alone can perform.

We must work out our own salvation as to the marketing of our products. No Department of Agriculture can solve that problem for us. No governmental agency can do it for us. I have a profound faith in the ability of farm organizations to solve that problem if and only if the farm organizations of this country learn team work. My friends, we have been too much like an ill-matched team of horses; when one wants to pull the other does not. The result of this has been when any important question comes up—important perhaps to one organization in particular—that others might not consider it important to them and the one organization has been left to make its struggle alone.

If the National Board of Farm Organizations, step by step—not all at once, for it will be a process of growth and more or less of evolution—can weld the bona fide farm organizations of this



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country into one body, a body in which the member organizations do not lose their identity or their independence—it may be necessary for each one of our organizations, possibly, to sacrifice something to become a member of such a great organization. When the War of the Revolution was ended, the thirteen colonies were held together by that rope of sand, and each one of them had to sacrifice, surrender some portions of its sovereignty in order to accomplish a perfect union that might be strong and by its strength protect them all.

I sometimes think that I am in danger of becoming an old fogey. The reason why I think that is because I have viewed with so much reluctance any change, however small, in some of the farm organizations that I have been working in for years, but a change may be necessary to accomplish a greater good for all of the farmers, including ourselves.

Organization a Means to End

I think that sometimes I have made the mistake of considering an organization as the end, as the thing we want to accomplish, instead of considering it as the agency with which we should do effective work. Therefore I have been reluctant to see the slightest changes in these old organizations built up with so much toil and at so great expense. But let me say to you I am convinced that one of these days I am going to wake up and find the procession gone by. The younger blood that is coming into these farm organizations is going to get them together and no power in this nation can stop them. And when that is done, and these organizations have liberty of action under the law, if that central organization will then sanely, wisely exercise the power that comes to it—recognizing that our rights end where the rights of another man or another set of men begin, recognizing that no power of organizations can ever permanently do an unjust thing—then, the very stars in their courses will fight for us in the future.

Barley as Dairy Feed

Someone asks if barley is a good dairy feed. The closing of the market for barley in the brewing industry should release much of this valuable grain for feeding purposes. Barley has long been recognized as a standard dairy cow feed in Northern Europe and has been fed to some extent in this country. The reason it has not been fed more in this country is that ordinarily corn was a cheaper feed. There are some sections where barley is a fairly good grain crop and can be depended on to produce feed grain. In Kansas the section where barley might be considered is in the western and northwestern part of the state. In actual feeding value barley is only slightly below corn. For feeding milk cows it probably might be considered equal to corn, pound for pound. It contains seventy-nine pounds of digestible nutrients to each hundred pounds of the grain, while corn contains eighty-six pounds of total nutrients to the hundred pounds. On this basis when corn is worth \$1.40 a bushel, barley is worth \$1.10 a bushel.

Barley should be ground or rolled if fed to milk cows. In planning a ration to contain barley it should be considered as a substitute for corn. For example, a combination consisting of four parts ground barley, two parts bran, and one part oil meal or cottonseed meal makes a good grain mixture for feeding milk cows.

Protect the Birds

Birds are among the farmer's true friends. We do not fully appreciate their value to us in the constant service they perform in helping us to control our insect pests. J. E. Ackert, of the Kansas Agricultural College, has recently given out some very interesting information about our feathered friends. Birds work so quietly and unobtrusively that we often do not know what they are doing and even permit them to be destroyed or driven from the premises. Professor Ackert reminds us that birds destroy thousands of harmful insects which if not killed and held in check would in a few years multiply and increase to such an extent as to absolutely destroy all vegetation.

Nearly every insect-eating bird eats on an average a hundred insects daily. In Massachusetts a bird survey showed that there are five insect-eating birds to the acre, making a total of twenty-five million in the state. The daily diet

of these birds would equal two and a half billion insects, and as 120,000 insects, on an average, will fill a bushel basket, the birds of Massachusetts eat 21,000 bushels of insects each day. This is their average diet for about five months out of the twelve. During the winter months about half this number is eaten.

"Birds have a habit of flocking in the fields where insect pests abound," says Professor Ackert. "This makes them useful in cases of emergency, such as an outbreak of grasshoppers. Birds eat both harmful and beneficial insects; but the harmful insects greatly outnumber the beneficial ones. The chickadee is one of the most useful insect birds, as it has been known to eat daily 200 to 500 insects or from 1,000 to 4,000 insect eggs.

"Birds are peculiarly fitted for riding man of pests because of their ability to see and to fly. The eyes are so constituted that the bird can see for long distances and change the focus quickly. Thus a hawk soaring over a meadow sees a mouse playing about below. With a sudden dart the hawk swoops to the ground and seizes the mouse.

"Except under unusual conditions birds should receive encouragement by the owners of farms. Certain species such as fly catchers, swallows, and warblers, prey to some extent upon useful parasitic insects, but on the whole the habits of these insectivorous birds are productive of more good than harm.

"Another evident service of birds is the wholesale destruction of weed seed. If birds were useful in no other way, their preservation would be desirable for this reason. The most active of these destroyers are the quail dove, the cow bird, the red winged black bird, the meadow lark and a dozen species of native sparrows.

"There are a number of ways in which birds could be protected. Boys and girls should be taught their value. If the farmer would plant a few wild cherry and mulberry trees near his cherry orchard the birds would not take much of his fruit, for they prefer the wild cherries and mulberries to the tame cherries. These trees planted near the orchard would also furnish the birds with a nesting place.

"Stray cats should be killed and pet cats watched during the nesting season, as every cat kills an average of fifty birds a season. The bird has many other enemies such as birds of prey, red and gray squirrels, chipmunks, foxes and weasels."

Trivial Injuries Rejected

Not all those who are applying to the Federal Board for Vocational Education for re-education are entitled to it. Under the law the War Risk Insurance Bureau must pass upon the case and declare the injuries "compensable" or at least 10 per cent of a total disability. One officer claimed that he could not move the index finger of his right hand and informed the board that he wanted the government to send him to the Massachusetts Institute of Technology for four years and pay him his compensation besides. A private who had the tip of a finger shot away desired to be placed in a western college for two years. These are samples of some of the rejections made by the board. A support of \$65 per month for a private, or support at the rate of pay last received by an officer, together with all expenses paid for tuition, books, and supplies, is beginning to be regarded as rather a desirable thing to have, and hence the cases which come before the federal board are scrutinized very carefully.

Feterita for Replanting

It pays to have some extra seed of feterita or other early sorghums. They may be replanted June 1 or later in case early planted kafir fails to grow. The sweet sorghums and other varieties planted mainly for forage yield well when planted on well prepared ground at any favorable time from May 1 to July 1. It is not safe to plant feterita until a week or two after starting on kafir because the feterita seeds are so large and soft that they are more likely to rot in cold wet soil.

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Real People

That's what the doughboys called The Salvation Army workers on the battle-fields and back of the lines in France.

They were "real people" to the soldier, because they were just like the folks back home, with hands accustomed to work and eyes always ready to smile.

And now these same "real people" back from the war with new laurels, have built their trenches in the Streets of Poverty in America. They well wage the fight for the poor and unfortunate at home, just as they have done for years, only on a larger scale.

The Salvation Army conducts Rescue Homes—Day Nurseries—Homes for the Helpless Aged—Lodging Houses for the Down and Outers—Fresh-Air Farms—Free Clinics.

It must extend this service everywhere where Misery and Poverty exist. It must continue to reach down and lift up the men women and children who have fallen.

Will You Help?

The Salvation Army Home Service Fund
May 19th to 26th

The space for this advertisement contributed to The Salvation Army by

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.

The Evolution of Wall Paper

WE SPEAK of "hanging" wall paper, when as a matter of fact we do not hang it at all, but paste it firmly to the wall. The expression undoubtedly harks back through centuries to the original hand-painted Chinese wall papers, which were the foundation of the present-day industry. These were literally "hangings," usually taking the form of a scroll of silk or paper five or six feet long, mounted on rollers and suspended from the ceiling, extending to the floor. Their purpose was two-fold, they were not only decorative but they shut out some of the cold and damp of draughty walls.

The house of a Chinese mandarin of the olden times is described as "a nicely furnished room, according to Chinese ideas; that is, its walls were hung with pictures which told a long tale as distinctly as if it had been written in Roman characters. The actors were all on the boards and one followed them readily from the commencement of the piece until the fall of the curtain." Sir Joshua Banks said in his journal in 1770, "A man need go no further to study the Chinese than the China paper, the better sort of which represents their persons and such of their customs, dresses, etc., as I have seen most strikingly like, though a little in the caricature style."

As early as the sixteenth century wall paper painted in China was introduced into Europe, although it did not come into general use until over a century later. About 1720 Macky speaks of the residence of Sir Richard Child as having "a parlor finely adorned with China paper, the figures of men and women, birds and flowers, the liveliest I ever saw come from that country." A paper representing the trades and occupations of China was put about 1790 into a drawing room of Kent by a favorite of George III, who is represented to have received it as a present from the emperor of China. Such papers were customary gifts from ambassadors and merchants in China to their friends at home. A number of boxes of Chinese wall paper, each box generally containing twelve lengths, have been discovered in recent years unused in the attics and lumber rooms of English country houses.

Many eighteenth century wall papers in Chinese design, some made in China for the European trade and others made in England, are still on the walls where they were first hung. These papers were backed with canvas and mounted on wooden frames with an air space between them and the walls. If they had been pasted to the plaster as now, they probably would not have lasted much longer than do our modern papers. Many styles of designs were used, fruit and floral patterns, some of them copied from India prints, landscapes and water scenes, often portraying historical events, hunting and racing, adventures, travel, mythology and the like, the scene prepared for each wall fitting the space in which it was to be hung. All the pictures in a room formed a panorama of related subjects. A 1912 number of Country Life in America reproduced a wall paper made in Paris in the early part of the nineteenth century and still to be found on the walls of a room in Portsmouth, Massachusetts. The central picture represents the Mississippi River and New Orleans, with steamers plying up and down and boats unloading their cargoes, while a group of rather too classically dressed American Indians execute a mild war dance on the bank. Smaller scenes on other wall spaces of the room show Niagara Falls, West Point, and the Natural Arch in Virginia, with a group of colored people in holiday attire. At Salem, Massachusetts, is a room covered with a Moorish panorama imported and hung in 1790.

Until the latter part of the eighteenth century when machinery for making wall paper in long strips was invented, its use was confined mainly to people of means. Those who could not afford to buy the imported papers usually painted their walls, sometimes using

stenciled designs. If the services of some artist could be secured, the walls were perhaps paneled like the French wall papers, each panel holding a different picture.

Our wall paper of today is usually printed from wooden rollers, or "blocks," as they are called, with the design hand-cut upon the surface. The printing surfaces are built up with felt and brass to give the desired shading. Metal stencils are sometimes used instead of the wooden rollers. In some of the more expensive wall papers as many as forty rollers are used to make up a single pattern. A great deal of care is necessary in printing to insure an even distribution of ink and pressure so that all of the "run" will be shaded alike.

It is interesting to know that the Chinese, from whom the rest of the world learned the use of wall paper, are themselves only today beginning to use it as it is known in Europe and America.

New Tests for Pectin

Two essentials for jelly making are the presence of acid and of pectin in the fruit juice. Some fruits contain too little acid, but if they contain pectin, jelly can be made by adding some other fruit juice which is acid. The standard test for pectin is adding to one tablespoon of the fruit juice an equal amount of grain alcohol—95 per cent—and letting the mixture stand a few minutes in a glass, then note the amount of jelly-like material which settles at the bottom of the glass. By performing this test along with a test of a juice which is known to make good jelly and comparing the relative amounts of pectin, it is possible to determine the jelly-making quality of any fruit juice.

Because of the difficulty in purchasing grain alcohol except on a physician's prescription, the experimental kitchen of the office of home economics of the U. S. Department of Agriculture has through various experiments found a new test for pectin in fruit juices. The following test has been found more or less satisfactory with apple, crab apple, plum, quince and cranberry juices: To one teaspoon of fruit juice add one-half teaspoon sugar and one-fourth teaspoon Epsom salts, stir until all are dissolved, then let stand five minutes. If the mixture sets into a jelly within this time the juice is a good jelly juice and may be sweetened and boiled at once, cooking rapidly until it begins to set or flake from the edge of the spoon. If the Epsom salt mixture fails to set into a solid sheet of jelly within a few minutes, then the juice needs to be concentrated by boiling before it is sweetened.

Wood alcohol will serve for the pectin test instead of grain alcohol, and its action is more rapid than that of Epsom salts. Like grain alcohol, it does not as a rule form a solid sheet of smooth jelly, but precipitates the pectin in smaller or larger clumps in the midst of a liquid juice. In a good jelly juice the pectin comes down in one large solid clump at once. In a poor juice—one in which the pectin is too much diluted—the clumps are smaller and more scattered.

The Epsom salt test was valueless in the case of grape juice, but the wood alcohol test can be used with grape juice as well as with other juices.

If wood alcohol is used, it must be remembered that this is a poison and should be labeled as such. Both the wood alcohol and the fruit juice treated with it should be kept away from children. The treated juice should of course not be tasted.

It is possible to make jelly from fruits which are deficient in pectin by extracting the pectin of the white inner skin of lemon or orange peel and adding this to the fruit juice. To extract pectin from oranges and lemons, cut or scrape the yellow outer peel from the white inner skin, remove the white portion, and pass it through the food grinder. Soak in sufficient water to

cover. Let it stand for two hours or longer, then cook slowly for about two hours and strain through a jelly bag. This may be made in quantities and kept on hand for use with any fruit which lacks pectin, or the peeling may be dried and used as needed. The yellow outer peel blends well with many fruit flavors so that it is not necessary to remove this. The amount of the extracted pectin it is necessary to use will depend on the kind of fruit, and one of the tests described above may be used to determine when enough has been added.

"Harmless" Teasing

"I used to be better when I was a girl than I am now," said a dear old lady with a little sigh. "I never missed Sunday school or church and I lived just as near right as I knew how, but I don't suppose there was ever a night that I went to sleep without praying that God would kill my brother Dick."

"Did you mean it?" asked a startled listener.

"Yes, I meant it," was the reply. "He used to tease me so much that I really thought life never could be worth living to me while Dick was alive."

"I was not the youngest of the family, but I was the smallest, a little thin, frail girl, nervous and extremely sensitive. I knew I was not pretty, but when Dick would look at me critically and exclaim, 'Well, Sis, it's too bad! I don't see why the Lord ever made anyone as homely as you!' I wanted to hide myself where no one ever could see me again. The names he called me—'Splinter' or 'Freckleface' or 'Pop-eyes'—I doubt not were appropriate, but they cut my sensitive young soul to the quick, and actually changed my natural sunny disposition to a morbid, self-conscious irritability. I think now I was probably his favorite, but I never guessed then that he cared anything for me, and to this day I never have been able to have the same feeling for Dick as for my other brothers and sisters."

"When my Don started the same thing with his younger sisters I told him my own experience and said to him, 'Now that doesn't mean anything to you except a little amusement, but it is a serious matter to your sisters and you can't afford to arouse in them the feeling your thoughtless teasing would be sure to create in time. Their love means

more to you than that.' And I never allowed him to do it."

Wise mother! Too few parents see anything but a joke in a child's embarrassment, and yet when we recall our own childhood days we realize how acutely a child can suffer from this cause.

A Calm Core

Of all the successful women I ever knew, a little woman 'way off in Mendota, Kansas, was the most successful, says Lucile H. Huntington in Life and Labor. She was the storm center of that whole town. If a mother had a wayward daughter or son, up she came running to Mother Harris. If the general merchant lost out on an order that went astray, there he was on Mother Harris' front porch telling her his troubles. If the parson's salary fell by the wayside, there were the church women in Mother Harris' front parlor. Even if a new baby came to a home, Mother Harris was sent for to officiate.

That woman not only ran the town but also ran the railroad that came through the town. The engineer on the local passenger cut his hand badly and up he came to Mother Harris' house to get it bandaged up and incidentally tell her all the news of the road and the union.

I pulled on Mother Harris' white apron as she passed by one day, and asked her to sit down for just a teeny minute.

"How do you do it, Mother Harris?"

"Dear, I just forget myself and how I do it. When I was young like you, and first married, every little thing just put me off. I couldn't stand a bit of worry, for fear that I would be sick the next day. Once my husband made a lot of money at some sort of a business investment and I actually became sick from joy. Landy, can you imagine it?"

I just sort of kept quiet and didn't say anything, and pretty soon she went on in her calm way, and looking far off as if she were seeing everything before her.

"Well, the trouble got me, and then one thing after another came, until I just thought that I should die of heart-break and sorrow and work and worry before the year was up. But we humans are made too tough for that. I did live on. And then one day, when things looked perfectly black, old Doctor Davis

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came up the front gate and into the kitchen where I was baking.

"How is everything in the world?" he asked kind of cheery-like.

"There is no world at all," I said, kind of sharp-like and all bitter inside. "This is no human world, but a devil's hell. I felt just that wild and terrible that I had to let it out somehow."

"He looked at me sort of twinkly and yet sad for a while, and then he said real quiet, 'Let's go into the sitting-room and talk for a bit.'"

"That would be all right if I had the time, Doctor," I answered real humble, for I was ashamed by then, but you see I have lots of work before me."

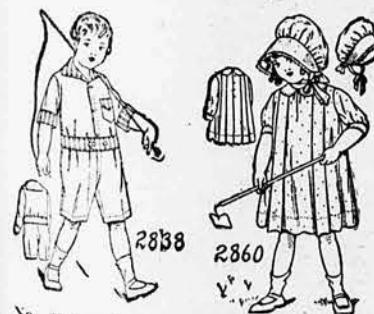
"And that is just what I want to talk about—only I can't if you are run-

FASHION DEPARTMENT

All patterns, 10 cents.



No. 2576—Ladies' Apron: Cut in four sizes: small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium will require 4 1/4 yards of 36-inch material. No. 2848—Ladies' House Dress: Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires six yards of 36-inch material. No. 2855—Girls' Dress: Cut in sizes 6, 8, 10 and 12 years. Size 10 requires 3 1/2 yards of 36-inch material, with one yard for bolero. No. 2456—Pretty Junior Dress: Cut in three sizes, 12, 14 and 16 years. Size 14 will require five yards of 36-inch material.



No. 2512—Ladies' Dress: Cut in seven sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires six yards of 40-inch material. The skirt measures about two yards at the foot. Nos. 2851-2837—Trim Business Costume: Waist 2851 cut in seven sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 34 will require 2 1/2 yards of 40-inch material. Skirt 2837 cut in seven sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 will require 1 1/2 yards of 44-inch material. The bodice is 1 1/2 yards. Two separate patterns, Play Suit: Cut in four sizes: 3, 4, 5 and 6 years. Size 4 requires 2 1/4 yards of 36-inch material. No. 2860—Girls' Dress and Sun Bonnet: Cut in five sizes: 2, 3, 4, 5 and 6 years. Size 4 requires 2 1/4 yards of 36-inch material for the dress and 1/4 yard for the bonnet.

ning and stewing about in this hot kitchen."

"Well, everybody just naturally obeyed the old doctor, and in the end I went into the sitting-room and had a talk with him—a talk that changed my whole life."

"It went this way. We women have more than a man's share of the burdens to carry. This also goes for you women out in the world. We have the burdens, but not the strength. Now the only way for any woman at all to do anything, whether in business or in the most sheltered home, is to not let it do her first."

"You see, dear, a lot of women let their emotions run away with every idea and bit of strength they have. When they are happy they are very happy, and when they are sad they are very, very sad. If sad or happy things are happening about them they are sad or happy all through. Now men can do this and yet be pretty good in their work; for men have such a lot of physical strength to stand back of the great emotional strains. But the woman must have some little room inside of her where she herself is shut up all the time. Always, no matter how fast or slow, sad or gay the things around her run, she must be away from it all in the inside, be calm and herself. The best thing I ever found to express just that thing is in the Bible where it says, 'Be still, and know that I am God.'"

"You can call it religion if you are religiously inclined. You can call it emotional control if you have a scientific mind. I have heard it called woman's instinctive domesticity, whatever that is. But the best name that old doctor gave for it that day in the sitting-room was just a calm core. You have got to have something around which to build things or they just aren't built. Have poise and self-control. Build your life around a calm-core!"

This Week's Patterns

A trim costume is made by combining Waist Pattern 2851 and Skirt Pattern 2837. Plaid suiting or gingham, serge, linen, gabardine or satin would be suitable for the skirt, and lawn, madras, linen, crepe, silk or satin for the waist. In ordering, remember that this illustration calls for two separate patterns and inclose 10 cents for each.

An attractive style for your new dress of silk or cotton is shown in 2512. The becoming house dress, 2848, may be made from striped seersucker, checked or plaid gingham or percale. For a simple afternoon dress, lawn, linen, drill or cotton gabardine may be made up in the same style. An unusually pretty dress for a young girl is shown in 2456, and a pleasing frock for a little girl in 2855. This has a bolero which may be omitted. The natty play suit for the little boy is just the thing for romping and outdoor wear. Linen, gingham, linen, drill, pique, seersucker or khaki may be used for this.

How to Cut Rose Blooms

Cutting roses so as to preserve and encourage a maximum number of blooms is almost an art. Experience indicates that to preserve the most flower buds, the stem should be cut back to the first five-leaf shoot that will allow the proper length of stem for the cut flower. The wood at the three-leaf shoot might develop a bloom but it is likely to produce blind wood.

"Oh, my," yawned the wife as hubby pleaded with her to arise and prepare his breakfast, "you never let me have my beauty sleep!"

"But you don't need a beauty sleep, dear," answered hubby.

And it came to pass that wifely quickly arose, and there have been no more late breakfasts in that household, even unto this day.—Judge.

Interlude

The days grow shorter, the nights grow longer.

The headstones thicken along the way; The life grows sadder, but love grows stronger

For those who walk with us day by day.

The tear comes quicker, the laugh comes slower.

The courage is lesser to do and dare; And the tide of joy in the heart falls lower.

And seldom covers the reefs of care.

But all true things in the world seem truer, And the better things of earth seem best, And friends are dearer as friends are fewer, And love is all as our sun dips west.

Then let us clasp hands as we walk together.

And let us speak softly in love's sweet tone;

For no man knows on the morrow whether We two pass on—or but one alone.

—Ella Wheeler Wilcox.

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For illustrated literature, maps, description of lands for sale in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., apply to Superintendent of Immigration, Ottawa, Canada, or

F. H. HEWITT, 2012 Main St., Kansas City, Mo.

Canadian Government Agent

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BUY WAR SAVINGS STAMPS

Haskell Coffin

Metropolitan Sandwiches

1/2 pound cheese
3 tablespoons melted butter
1 teaspoon prepared mustard
3 hard cooked eggs
3 tablespoons cider vinegar
1/2 teaspoon pepper
1/2 teaspoon salt

Mash yolks, all butter, salt, pepper and mustard and mix until smooth. Grate cheese or put through a food chopper. Chop whites of eggs. Mix all thoroughly, stir in vinegar and spread between three or four thin slices of buttered bread. Press together and cut in long, narrow strips.

Scalloped Salmon

1 can salmon
1 egg
1 pint milk
2 rounding teaspoons flour
1 1/2 tablespoons butter

Put the milk on stove in double boiler, keeping out one-half cup. Mix butter and flour to a smooth paste and add the egg well beaten, then the one-half cup of cold milk. Mix well and then stir

into the milk, which should be scalding. Stir until smooth and thick like gravy. Season with salt and pepper and set aside to cool. Butter a baking dish and fill with alternate layers of flaked salmon and the cream dressing. The top layer should be of the dressing. Sprinkle with cracker crumbs and bake one-half hour in moderate oven.—Circular, Bureau of Fisheries, U. S. Department of Commerce.

Spring bulbs may be divided after the leaves die down. The leaves should not be removed, however, before they wither, as they supply the bulbs with vitality for next season's blossoms. To rob them of this means that next year's blooming qualities will be lessened.

Bees work from early morning till dark. They never strike for shorter hours and more pay. They work for nothing and board themselves.

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 50,000 farmers for 5 cents a word per week. No "ad" taken for less than 40 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

FARM WITH YOUR FORD. DO TWO days' work in one. Agents made \$100 weekly. Money back guaranteed. Write today for free circular. Geneva Tractor Co., Dept. 35, Geneva, Ohio.

SEEDS

MILLET SEED—BIG GERMAN RE- cleaned, \$2.00 per bushel; sacks, 30c. Clyde Ramsey, Mayfield, Kansas.

FOR SALE—SWEET POTATO PLANTS: Porto Rico, Nancy Hall, Early Triumph. Prompt shipment, \$2 per thousand. J. Q. Dorris Plant Farm, Valdosta, Ga.

PORTO RICO SWEET POTATO PLANTS—1,000, \$2; 10,000 and over, \$1.75 per thousand. Promptness, quality and satisfaction guaranteed. The Davis Plant Co., Tifton, Ga.

MILLIONS OF PLANTS—NANCY HALL sweet potatoes from hundreds of bushels of choice seed. 5,000, \$17.50; 1,000, \$3.75; 500, \$2.00; 100, 50c. All plants prepaid by parcel post or express. Satisfaction guaranteed. No disappointment. Fairview Plant Farm, McLoud, Oklahoma.

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.

MISCELLANEOUS.

CABBAGE CUTTER, SIX KNIVES— slices all vegetables rapidly. Excellent for potato chips. Prepaid, \$1; three for \$2. Lusher Brothers, Elkhart, Indiana.

ONE MAN CHANGES HEAVIEST HAY racks, header boxes, etc., from ground to wagon and off with my sling. Price, \$9. Satisfaction or money returned. F. Lovering, Fremont, Nebraska.

CATTLE.

REGISTERED SHORTHORN BULLS— Reds, from 12 to 18 months old, at farmers' prices. W. T. Hammond, Portis, Kan.

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

REAL ESTATE.

640-ACRE STOCK AND GRAIN HOME- steads. Duff, Casper, Wyoming.

KINGFISHER COUNTY, OKLA., FARM lands. C. W. Smith, Smith Bldg., Kingfisher, Okla.

LANDLESS MEN—LET US HELP YOU to a farm home. Farms to meet all requirements. Ask for our new List No. 5. Thorpe Bros., 1-206 Andrus Bldg., Minneapolis, Minn.

A REAL LAND BARGAIN—480 ACRES together, 4 1/2 miles to county seat, Wichita County, Kansas. All level, tillable land. Price, \$5,000 cash. Sherman Hogsett, Brownell, Kansas.

DOGS.

AIREDALES, COLLIES, AND OLD ENG- lish Shepherd dogs. Trained male dogs, brood matrons, pups all ages. Flemish Giant, New Zealand, and Rufus Red Belgian rabbits. Send 6c for large instructive list of what you want. W. R. Watson, Box 128, Oakland, Iowa.

SITUATION WANTED.

SINGLE MAN, AGE 40, THOROUGHLY competent steam engineer and all around mechanic, sober and industrious, would like a change of climatic conditions. Wishes to get in touch with responsible farmer or thresherman who needs someone to run tractor engine, coal fired steam rig preferred. Gasoline considered. If you can show me how to run it. Address A. P. Teed, 85 Kalamazoo Street, Battle Creek, Michigan.

FARMS WANTED.

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

HONEY.

REGARDING THE LAST WORD IN FINE honey, write to Drexel, the Bee Man, Crawford, Colorado.

HONEY—CHOICE WHITE ALFALFA, 120 lbs., \$24; 60 lbs., \$12.50. Amber honey, 120 lbs., \$22; 60 lbs., \$12. Bert W. Hopper, Rocky Ford, Colorado.

Real Estate For Sale

HOME FARM, 320 ACRES

Out 6 1/2 miles. Good buildings. Fine water, 160 wheat, half with sale; some alfalfa. Only \$8,500, with \$2,500 cash, balance long time. One good 160, out 8 miles, small house, 100 smooth, 60 wheat, 40 spring crops, one-fourth with sale; shallow to water; only \$2,500, with \$500 cash, balance terms. Have other farms and ranches on small payments now, another payment after harvest. E. C. Buxton, Ulica, Ness County, Kansas.

Northeast Kansas Bargain

Forty miles Kansas City, 200 acres, 5 miles good town. Fair improvements. 150 acres tillable, balance bluegrass, timber, pasture. This is a real bargain. Price, \$50 per acre.

Wm. Pennington

McLouth, Jefferson County, Kansas

SOUTHEASTERN KANSAS—Farms, all sizes; lowest prices. Terms, \$1,000 and up. Send for booklet. THE ALLEN COUNTY INVESTMENT CO., Iola, Kansas.

—OTTAWA—

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CATALOG FREE

Feeding Pen for Chicks

Some arrangement should be made so that chicks can eat without being disturbed by the older birds. A small feeding pen can be made by taking a piece of 48-inch woven wire fencing about thirty feet long and fastening the ends together to form a circle. If this is set up with the small meshes at the bottom it makes a satisfactory feeding pen for young chicks. To secure the best growth in young chicks both grain and mash should be supplied in self-feeding hoppers so that the chicks may eat at any time.

To make the number of returned citizens equal to the number of returned soldiers is the problem that is now before the Federal Board for Vocational Education. About two million of our soldiers have been returned to civil life. Two hundred thousand have been wounded, but many of these will soon be physically fit to take up their duties again, while it is estimated that at least 10 per cent of them have handicaps which must be overcome. From the latest reports tuberculosis is responsible for 22 per cent of the disabilities incurred, wounds not necessitating amputation and miscellaneous wounds for 31 per cent, nerve diseases for 8.3 per cent, and wounds requiring amputation, 5 per cent.

HELPFUL POULTRY HINTS

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

Farm Flock Egg-Laying Contest

SOMETHING different in the way of an egg-laying contest is being carried on in Missouri this year, where instead of having a few selected fowls competing against the selected best of other breeders under the care of an expert, whole flocks of hens on the home farm and under the care of their owners are matched against similar flocks in various other parts of the state. This is not only a contest to see which hens can lay the most eggs, but is also a demonstration to show how proper management will increase the egg production and the profitability of the farm poultry flock.

Favorable weather and careful attention combined to give the hens in the contest an unusually high egg production for March. The 14,478 hens in the contest for this month laid a total of 209,457 eggs, or an average of 14.5 eggs per hen. The White Rocks with an average production of seventeen eggs per bird made the best breed average for the month, but were closely pushed by the White Leghorns with an average of 16.7 eggs and the White Wyandottes with 16.5 eggs.

The highest individual flock record was made by eighty Brown Leghorn hens in Holt County, with an average of 21 eggs per hen. This flock was only a few eggs ahead of seventy-five White Wyandottes in Cole County with an average production of 20.9 eggs per bird.

The average income from eggs from each farm was \$60.70 and the average expense for feed \$19.90, leaving a net return of \$40.80 for each farm. In addition to the eggs listed in the above income, ninety-seven farms set 2,145 dozen eggs during the month, or an average of 265 eggs per farm. Forty-five of the farms reported 6,192 chicks on April 1, or an average of 138 chicks per farm.

It is interesting to note that the \$40.80 average profit for March exceeded by a considerable margin the average total profit of \$29.61 for the four winter months. It is also noteworthy that the 33.5 eggs produced by the average hen in this contest between November 1 and April 1 is more than half of the 64.5 eggs credited by the 1910 census as the annual production of the average Missouri hen.

Breaking Up Broody Hens

To prevent considerable loss of production through broodiness, hens showing a desire to set must be taken in hand promptly. The most satisfactory device for breaking up broody hens is a coop with an open slat or wire bottom. If the hen is unable to find a spot she can keep warm, she will soon quit setting. If the hen is on the nest at night she should be promptly removed to the broody coop, and be fed liberally during the time she is confined. Usually three days in an open bottom coop will cure the broodiness, and in six or eight days she will go back to laying.

New Poultry Bulletin Out

"Illustrated Poultry Primer" is the name of a new United States Department of Agriculture farmers' bulletin. It gives by means of photographs and brief statements the fundamentals underlying the production of poultry. There are many illustrations on such subjects as the selection of breeds, artificial and natural incubation, poultry houses and fixtures, trap nests, feeding for egg production, marketing, lice and mites, and common diseases and treatments.

Mash Hoppers for Poultry

A dry mash is commonly recommended to be fed to growing chicks along with the cracked grain ration, says R. W. Sherwood in a leaflet issued by the division of college extension. The cracked grain ration is usually fed on the ground or in litter on the floor of the house, but the dry mash should be kept before the chicks so they can eat it freely. A convenient and economical means of feeding the mash is to make a little flat bottomed trough with the

sides perhaps an inch and a half or two inches high. To keep the chicks from scratching the feed out and wasting it, this should be covered with half-inch mesh hail screen. They can eat the mash through this freely, but cannot scratch it out and waste it. In making such a trough no special dimensions need to be followed except that the sides should be low enough so the chicks can get into it easily. In feeding dry mash in this kind of a trough it is not a good plan to feed more at one time than can be cleaned up during the day, since the chicks can get into the trough and the feed would become filthy if a large quantity was fed at a time.

As chicks get older a self-feeder similar in plan to the ones used in feeding hogs is recommended. With such a feeder a larger supply of the mash may be put in at a time. A feeder of this kind should have a board for adjusting the opening and should be so constructed that the chicks can eat easily but cannot get into the trough where the feed falls through. It is a good practice to encourage exercise by placing these dry mash self-feeders some distance from the place where the chicks roost. The sort of a feeder should be carefully constructed and have a roof which will prevent the feed from getting wet from beating rains.

This same kind of a hopper can be used for feeding dry mash to laying hens in winter and in the summer if a mash is needed. On some farms there is much waste grain about the lots that the hens will get too much, and in order to balance the feed the hens should have bran and shorts with 25 per cent high grade meat scrap supplied to them in the self-feeding hopper. If there is plenty of sour milk for them to drink the meat scrap may be omitted. If so fed seem inclined to eat too much mash in the summer, place the feeding hopper some distance from the roosting place.

American Egg-Laying Contest

During April the standard-bred pullets in the American Egg-Laying Contest being conducted by the poultry school at Leavenworth made consistent and desirable records with the exception of some individuals of the heavier breeds which developed stubborn desires to go broody.

The Single Comb White and Brown Leghorns, Mottled Anconas and Buff Minorcas made the best records as a whole. Among the all-purpose or meat varieties the Barred Plymouth Rocks were represented by one pen of five females, which produced 121 eggs, taking second place for the month. One pen each of Buff Plymouth Rocks, Silver Wyandottes, S. C. R. I. Reds, and White Plymouth Rocks, also proved consistent performers, producing 109, 119, 106 and 108 eggs respectively.

Considering the first six months of the contest, we find a pen of S. C. White Leghorns in the lead with a record of 603 eggs. Second place is held by a pen of five Barred Rock pullets, which produced 541 eggs up to May 1.

The average production of individuals from all pullets of any one variety is 98.9 eggs. This is held by the White Leghorns and is certainly a very fine average, considering there are ninety-five White Leghorn pullets in the contest, owned by breeders in eight different states. It is of interest to note that by far the greater portion of these are truly fine specimens as judged by the American Standard of Perfection for exhibition points.

The variety holding second place at the end of six months for high average performance of all pullets is the White Orpingtons. These splendid standard quality exhibition pullets have an average production of 89 1/2 eggs. Every single one of these pullets is remarkable in quality. They have size, truly fine shape, are correctly proportioned, with wonderful color and neat standard head points. This bunch will stand watching till the end of the year in more ways than one.

Four pullets have passed the 130-egg

Sell Him Now!

If you have a pure-bred bull, boar or other breeding animal that you cannot use in your own herd another season, why not sell him now? There are always buyers looking for pure-bred sires. Their trouble is to find a good animal. Your cue is to tell them where to find him, through the Classified Columns of

Kansas Farmer

work in the first six months. They produced 138 eggs; a Silver Wyandotte pullet from Iowa produced 134 eggs; a S. C. White Leghorn pullet from Pennsylvania has produced 132 eggs; a S. C. White Leghorn pullet from Kentucky has produced 132 eggs. There are several fine pullets with a record of 120 eggs or better for the first six months. Most any of these should produce around 250 eggs for the year, the chances of three or four pullets from this contest reaching or passing the 300-egg mark are excellent. This showing is indeed very pleasing to Mr. Eisenberry, who has given his very best thought to fixing the proportions of the different kinds of grains and stuffs given these fowls. Last month in reporting the contest failed to mention a perfect score made by a fine S. C. Brown Leghorn pullet from Indiana, which produced forty-one eggs in thirty-one days.—JESSE F. PALMER.

Little chicks should be supplied con-

PURE BRED POULTRY LANGSHANS.

SCORED BIG BLACK LANGSHANS, ring strain, guaranteed. Cockerels, pullets, eggs. H. Osterfoss, Hedrick, Iowa.

RHODE ISLAND REDS.

SINGLE COMB REDS—WRITE FOR CIRCULAR. P. H. Thiel, Renwick, Iowa.

PURE-BRED R. C. R. I. RED EGGS FOR hatching, \$1 per fifteen, \$5 per hundred. F. Hinson, Stockdale, Kansas.

PURE-BRED DARK SINGLE COMB RED EGGS, \$1.50 fifteen, \$6 hundred. Edna Hulse-Talmage, Kansas.

SCORED DARK RED ROSE COMB cockerels, \$5 and \$10 each. Eggs, \$5 for fifteen; \$15 for fifty. Highland Farm, Hedrick, Iowa.

LEGHORNS.

A. C. BROWN LEGHORN EGGS FOR hatching. Extra quality. \$6 per hundred. L. H. Hastings, Thayer, Kansas.

SINGLE COMB WHITE LEGHORNS—Long Vesterlaid strain. Eggs, 108 for \$5; 15c. Mrs. C. C. Cole, Levant, Kan.

A. C. BROWN LEGHORNS, BRED 23 years; 222 to 266 egg lines. Eggs, fifteen, thirty, \$3; fifty, \$4; hundred, \$7. George S. Sullivan, Kansas.

KANSAS BROWN BEAUTIES, ROSE Comb Brown Leghorns. Bred for eggs and hatching. Extra large. Eggs, setting, \$1.50; hundred, \$6. Mrs. Ada Cowan, Americus, Kansas.

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EGGS—BUFF ORPINGTON DUCKS AND Mallard White Rocks. Mrs. Chas. Snyder,ingham, Kansas.

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NARRAGANSETT TURKEYS, STOCK and eggs for sale. Mrs. John Mitchell, Lantain, Kansas.

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WHITE ROCK EGGS, \$5 PER HUNDRED. Nora Lamaster, Hallowell, Kansas.

100 BUFF ROCK EGGS, \$6.50; FIFTY, \$7.50. Maggie E. Stevens, Humboldt, Kan.

WHITE ROCK CHICKS, 15c; EGGS, 10c. Mrs. J. W. Hoornbeck, Winfield, Kan.

PURE-BRED BARRED PLYMOUTH Rock eggs from range-raised hens, fifteen years breeding, winter laying strain. Eggs guaranteed fresh and fertile, true to type. \$5.00 setting, \$7 hundred. Mrs. Jno. P. Kelly, Emmett, Kansas.

EGGS—E. B. THOMPSON'S BARRED Rocks, the world's best. Bred to win and give. Elegant plumage, exceptionally grand. \$5—Fifteen, \$2; thirty, \$3.50; sixty, \$6. Repaid. After June 1, 30 per cent discount. Mrs. Allie Remington, Meriden, Kansas.

WYANDOTTES.

PURE-BRED WHITE WYANDOTTE Eggs—Fifteen, \$1.25; 100, \$6. Effie Acheson, Alco, Kansas.

ORPINGTONS.

S. C. BUFF ORPINGTON EGGS, \$1.50 setting, \$6 hundred. Partridge Rocks, \$2 setting. Mrs. Frank Neel, Beverly, Kan.

SINGLE COMB BUFF ORPINGTONS, Partz strain. Eggs, \$1.50 fifteen, \$5 sixty, \$10 hundred. Mrs. Olive Carter, Mankato, Kansas.

SOLID BUFF, BRED FOR SIZE, TYPE, egg. Imported special pen 14-pound cockerel, 12-pound hens. Eggs: \$20, fifteen, \$40, twenty, \$60, thirty, \$80, forty, \$100, fifty, \$120, sixty, \$140, seventy, \$160, eighty, \$180, ninety, \$200, hundred, \$220. Second pen headed 12-pound cockerel, 12-pound hens. Eggs: \$25, fifteen, \$40, twenty, \$60, thirty, \$80, forty, \$100, fifty, \$120, sixty, \$140, seventy, \$160, eighty, \$180, ninety, \$200, hundred, \$220. Bourbon turkeys, \$50 tom; eggs, \$5, ten. G. Stewart, Henderson, Iowa.

POULTRY WANTED.

URGENT DEMAND FOR BROILERS, turkeys and other poultry. Ship direct. Daily shed 1833. The Copes, Topeka, Estab-

stantly with fresh water, in either shallow pans or small drinking fountains.

Many an unsightly piece of old furniture may be completely transformed by the elimination of ornamentation and a judicious use of stain and varnish.

Kansas Fairs in 1919

The following is a list of the fairs to be held in Kansas in 1919, their dates (where such have been decided on), locations and secretaries, as reported to the State Board of Agriculture and compiled by Secretary J. C. Mohler:

Kansas State Fair—A. L. Sponsler, secretary, Hutchinson; September 13-20.
Kansas Free Fair Association—Phil Eastman, secretary, Topeka; September 8-13.
International Wheat Show—E. F. McIntyre, general manager, Wichita; September 29-October 11.
Allen County Agricultural Society—Dr. F. S. Beattie, secretary, Iola; September 2-5.
Allen County-Moran Agricultural Fair Association—E. N. McCormack, secretary, Moran; September 3-5.
Barton County Fair Association—Porter Young, secretary, Great Bend; September 30-October 3.
Bourbon County Fair Association—W. A. Stroud, secretary, Uniontown; September 9-12.
Brown County-Hiawatha Fair Association—J. D. Weltmer, secretary, Hiawatha; August 26-29.
Clay County Fair Association—O. B. Burtis, secretary, Clay Center; September 1-5.
Cloud County Fair Association—W. H. Danenbarger, secretary, Concordia; August 26-29.

Coffey County Agricultural Fair Association—C. T. Sherwood, secretary, Burlington; October 5-10.
Comanche County Agricultural Fair Association—A. L. Beasley, secretary, Coldwater; September 10-13.
Coville County-Eastern Coville County Fair Association—W. A. Bowden, secretary, Burden; September 3-5.
Dickinson County Fair Association—T. R. Conklin, president, Abilene; September 16-19.
Douglas County Fair and Agricultural Society—W. E. Spaulding, secretary, Lawrence.
Ellsworth County Agricultural and Fair Association—W. Clyde Wolfe, secretary, Ellsworth; September 2-5.
Ellsworth County—Wilson Co-operative Fair Association—C. A. Kyner, secretary, Wilson; September 23-26.
Franklin County Agricultural Society—L. C. Jones, secretary, Ottawa; September 23-26.
Franklin County—Lane Agricultural Fair Association—Floyd B. Martin, secretary, Lane; September 5-8.
Gray County Fair Association—C. C. Isely, secretary, Cimarron; September 30-October 3.
Greenwood County Fair Association—William Bays, secretary, Eureka; August 26-29.
Harper County—The Anthony Fair Association—L. G. Jennings, secretary, Anthony; August 12-15.
Haskell County Fair Association—Frank McCoy, secretary, Sublette; about September 15.
Jefferson County—Valley Falls Fair and Stock Show—V. P. Murray, secretary, Valley Falls; September 2-5.
Labette County Fair Association—Clarence Montgomery, secretary, Oswego; September 24-27.
Lincoln County—Sylvan Grove Fair and Agricultural Association—Glenn C. Calene, secretary, Sylvan Grove; September 2-5.
Lincoln County Agricultural and Fair Association—Ed M. Pepper, secretary, Lincoln; September 9-12.

Linn County Fair Association—C. A. McMullen, secretary, Mound City.
Marshall County Stock Show and Fair Association—J. N. Wanamaker, secretary, Blue Rapids; October 7-10.
Meade County Fair Association—Frank Fuhr, secretary, Meade; September 2-5.
Mitchell County Fair Association—W. S. Gabel, secretary, Beloit; September 30-October 4.
Montgomery County Fair Association—Elliott Irvin, president, Coffeyville; September 16-20.
Morris County Fair Association—H. A. Clyborne, secretary, Council Grove; October 7-10.
Nemaha Fair Association—J. P. Kielzer, secretary, Seneca; September 2-5.
Neosho County Agricultural Society—Geo. K. Bideau, secretary, Chanute; September 29-October 4.
Norton County Agricultural Association—A. J. Johnson, secretary, Norton; August 26-29.
Pawnee County Agricultural Association—H. M. Lawton, secretary, Larned; September 24-26.
Phillips County—Four-County Fair Association—Abram Troup, secretary, Logan; September 9-12.
Pottawatomie County—Onaga Stock Show and Carnival—C. Haughwout, secretary, Onaga; September 24-26.
Pratt County Fair Association—W. O. Humphrey, secretary, Pratt.
Republic County Agricultural Association—Dr. W. R. Barnard, secretary, Belleville; August 19-22.
Rooks County Fair Association—F. M. Smith, secretary, Stockton; September 2-5.
Russell County Fair Association—H. A. Dawson, secretary, Russell; September 30-October 3.
Smith County Fair Association—J. M. Davis, secretary, Smith Center; September 2-5.
Trego County Fair Association—S. J. Straw, secretary, Wakeeney; September 9-12.
Wilson County Fair Association—Ed Chapman, secretary, Fredonia; August 18-23.

Principal Garden Insects and Remedies

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

CROPS ATTACKED	INSECT PEST	WHAT TO DO	WHEN TO DO IT
Beans, Peas	Aphids (plant lice sucking sap from the leaves)	Nicotine sulfate— $\frac{1}{2}$ pint to 100 gallons of water plus 3 or 4 pounds of soap. One teaspoonful to 1 quart of water plus a small piece of soap. Soapy spray—1 pound of laundry soap to 6 gallons of water.	When insects first appear.
Beets, Chard, Spinach	Webworm (worm which eats and ties the leaves)	Arsenate of lead—3 pounds of lead arsenate paste to 50 gallons of water. Must be applied with force.	As soon as insects appear.
	Cabbage Worms (Soft bodied worms which devour the leaves and ruin the heads)	Arsenate of lead—3 pounds of lead arsenate paste to 50 gallons of water. Dust as for Colorado potato beetle.	As soon as the plants are set. Continue until heads are half formed.
	Cutworms (Fleshy worms which cut off young plants at surface of ground)	Poisoned bran mash— Bran.....20 lbs. Paris green or white arsenic.....1 lb. Syrup.....2 qts. Oranges or lemons.....3 Water.....3 $\frac{1}{2}$ gals.	As soon as the damage is noticed sow it broadcast in the evening so that the amount recommended will cover 4 or 5 acres.
Cabbage, Cauliflower, Turnip, Radish	Harlequin cabbage bug (An orange and black triangular bug that sucks the sap)	Hand picking bugs and eggs.	As soon as bugs appear.
	Aphids	On cabbage and cauliflower, use sprays given under beans and peas and wet the aphids. On turnip and radish, use only nicotine sulfate with 3 pounds of soap to 50 gallons, or 1 ounce to a gallon.	When they become numerous
	Squash bugs (Brown bugs which suck sap from under side of leaves)	Hand pick bugs and eggs and trap with chips and small pieces of board. Soapy spray—1 pound of soap to 3 gallons of water. Strike the bug so as to actually wet it.	When insects appear.
Cucumbers, Melons, Squashes, Pumpkins, Watermelons	Striped cucumber beetle (Small, yellow and black striped beetles which attack young plants)	Protect young plants with screens. Dust with tobacco, lime, or sulphur. Apply arsenate of lead liberally, using 3 pounds of lead arsenate paste to 50 gallons of water.	When the insects appear. Repeat once a week until danger is past.
	Aphids (Plant lice sucking sap from leaves)	Nicotine sulfate and soapy spray used as for bean aphids. Spray under sides of leaves to hit insects.	As soon as insects appear.
Onions	Onion thrips (Small sucking insects causing white spots on plant)	Spray as for aphids, using high pressure.	When insects appear.
Potatoes, Egg Plants, Peppers	Potato bug (Thick, striped beetle and reddish larvae eating leaves)	Arsenate of lead—4 pounds of lead arsenate paste to 50 gallons of water. Paris green.....1 lb. Freshly slaked lime.....1 lb. Water.....50 gals.	Hand pick adults and eggs when plants are not large enough to spray. Spray when insects are attacking the plants.
	Flea-beetles (Small jumping beetles which perforate the leaves)	As a dust—1 heaping tablespoonful of paris green or powdered arsenate of lead to 1 quart of flour or hydrated lime. Arsenate of lead and Bordeaux mixture on under sides of leaves.	Dust by means of perforated can or cloth bag while dew is still on plants. Spray when insects appear.
Sweet Corn	Corn earworm (Worm found eating the kernels of corn in the ear)	Three parts of powdered arsenate of lead to 1 part sulphur or flour.	Dust with cheesecloth bag, perforated can or powder gun when silks first appear and repeat every four or five days while corn is in silk.
Likely to attack any garden truck	Grasshoppers	Poisoned bran mash as recommended for cutworms.	Sow broadcast in the morning so that the amount recommended will cover 4 or 5 acres.

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A yearling roan bull for sale. Also some cows and heifers. Priced to sell. Write for their breeding. **U. G. MASON, KEYTESVILLE, MISSOURI**

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

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One spring yearling sire, fall boars by Pathfinder Chief 2d, "the mighty sire." Real herd headers. Priced right. Would exchange for good gilts. **W. W. OTEY & SON, WINFIELD, KANSAS**

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A bunch of purebred Shropshire rams, ready for service; priced worth the money. **HOLARD CHANDLER, Charlton, Iowa.**

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PERCHERONS AND HEREFORDS**For Immediate Sale**

Six-year-old Ton Stallion, black. Have his fillies. Must sell.
One coming three-year-old, weight 1,750 pounds, gray, broke to service.
One coming two-year-old, weight 1,550 lbs., black, ready to use this spring on a few mares.
All of these horses sound and good individuals.
In Herefords Have About Thirty Cows and Heifers

All that are old enough are getting calves this spring from my herd bull, Domineer 566433, a son of Domino, bred by Gudgell & Simpson. A few May bull calves yet.
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Considerable attention has been directed lately to the investigations being made at the Illinois University along the line of developing multiple hitches for using four, six and eight-horse teams in farm work. These will add greatly to the efficiency of the draft horse. Public demonstrations have been given in various parts of the country to show how to use these hitches to the best advantage. Draft horse men have been very much interested in this work because it seems to point the way toward promoting a development of draft horse efficiency. "When the idea was first broached to me," said W. H. Butler, president of the Percheron Association of Ohio, "I was as skeptical as any doubter, but after seeing just what this hitch will do and using it as I have done on my own farm, I am thoroughly convinced as to its practicability, flexibility and economical usage in our every-day farming by every-day farmers."

"The other day I stood watching one of my teams in the field, and when I noted the ease with which those six big Percheron mares pulled that two-bottom 14-inch gang plow, breaking a heavy clover sod, the thought came to my mind as to just what these six mares meant to me in a financial way, to say nothing of the pleasure of seeing and owning those good old brood mares, so I took out my pencil and jotted down a few figures that I can vouch for as being accurate."

"The six mares that happened to be hooked that day had an average age of 11½ years, had been owned by me an average of six years, and their initial cost to me represented the sum of \$3,317.50, or an average of \$570 each. During my ownership of them they have produced offspring that either have sold for cash, or I have been offered cash for same, and have retained them for my own stud, to the amount of \$8,685, or an average sale of produce of \$1,470.83 per mare. I know that if I offered the six for sale tomorrow morning for \$3,000 I would not have one left by nightfall, and I know that these faithful workers have more than earned their keep by their daily toil in the fields, to say nothing of the tons of manure they have produced to fertilize the soil of my farm."

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

"The interest on my investment of \$3,317.50 for these six matrons, at 6 per cent for six years, amounts to \$1,196.30, deducting this from the \$8,685 realized from the sale of their offspring, still shows a net profit of \$7,489.70, or over \$850 more than double the original cost of the mares. This does not take into account the show yard winnings of these mares or their produce, which amounts to several hundred dollars."

"So that, while I have had my downs and ups in the breeding game, losing foals the same as other breeders do from time to time, I cannot help but feel that I made a good investment, and now with the coming of the simplified method, I feel much more secure in my investment than if it were tied up in a gas power implement that could neither produce foals nor fertilizer while it was doing part of my work on the farm."

Careful experiments in practical work have shown that tuberculosis cannot be detected to any great extent among animals by physical examinations. The most reliable is the tuberculin test applied by a trained operator. Tuberculin, while regarded as the most accurate diagnostic agency known to science, is safe only in the hands of a trained and skillful operator who is acquainted with its limitations and with the symptoms it produces in the animals to which it is applied. The tuberculin test is prescribed by the Bureau of Animal Industry in the co-operative campaign it has begun to eliminate tuberculosis as an animal disease in this country.

Concentrate all your thoughts upon the work in hand. The sun's rays do not burn until brought to a focus.—ALEXANDER G. BELL.

No cattle owner can afford to live in doubt as to whether his animals are afflicted with tuberculosis. Unlike most other infectious diseases, tuberculosis has an insidious way of working under cover, and oftentimes animals of the most healthy appearance are found to react to the tuberculin test prescribed by the Bureau of Animal Industry of the U. S. Department of Agriculture. When slaughtered, the final proof that the tuberculin test was accurate is found in the diseased organs of the animal.

It is generally agreed that the best sort of a peace for Germany is one she will be unable to break.—Western Kansas Journal.

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CLAIM SALE DATES.

Jersey Cattle.

May 31—Central Kansas Jersey Cattle Club,
M. A. Tatlow, Manager, White City, Kan.

June 24—Dr. J. H. Lomax, Leona, Kan.

Spotted Poland Chinas.

Oct. 11—R. W. Sonnenmoser, Weston, Mo.

Feb. 14—R. W. Sonnenmoser, Weston, Mo.

The Hereford sale of Samuel Drybread & Sons, Elk City, Kansas, May 13, was held as advertised. The offering was presented in good breeding condition and sold for a total of \$25,275, or an average of \$238 for the 106 catalogued. Twenty-four bulls averaged \$210. Eighty-two females averaged \$246.75. No sensational prices were recorded nor records broken, yet the prices were low enough to permit of liberal investment, and total returns were very satisfactory to Drybread & Sons, who have gained an enviable reputation among Hereford breeders of the West.

U. G. Mason, of Keytesville, Missouri, owner of one of Missouri's choice herds of Scotch and Scotch-topped Shorthorns, reports his herd doing well. Mr. Mason's herd is made up of representatives of the best families of the breed and is noted for its high class individuals. A feature of his herd at this time is the fine lot of young stock.

The Kansas Hereford Breeders' sale held in the college sale pavilion at Manhattan on May 12 resulted in the disposal of fifty-two head of Herefords at an average of \$337 per head. Twenty-one bulls sold for an average of \$361.98. Thirty-one females sold for an average of \$309.83. The highest priced bull sold for \$1,050 and went to H. G. Chittenden, Hays, Kansas. This bull, a coming two-year-old, was consigned by the Kansas Agricultural College. A cow with bull calf at side topped the sale of females at \$700. J. F. Rhodes of Tampa, Kansas, was the purchaser.

G. B. Wooddell of Winfield, Kansas, owner of one of the good herds of Duroc Jersey hogs, has saved about a hundred spring pigs, mostly sired by Chief Wonder, the first prize and reserve champion Duroc Jersey at the Kansas State Fair last year. This hog will be fitted and shown again this year. He has proven a great breeder of the right type of Durocs, and a feature of the herd at this time is twenty-five fall gilts sired by Chief Wonder that will be grown out for a bred sow sale next spring. Mr. Wooddell has enjoyed a very prosperous year in his hog business.

W. W. Otey & Sons, breeders of Duroc Jersey swine, have one of the best lots of pigs ever found on the Otey farm. Pathfinder 2d, now at the head of the herd, is proving a great sire. He is by the noted Pathfinder and Cherry Chief blood lines. The herd now numbers more than 200 head and as to individuals and blood lines is one of the best herds of Durocs in Southeast Kansas. Mr. Otey will fit a small show herd for the Kansas State Fair this fall, including a few Pathfinder 2d spring pigs entered in the Duroc futurity classes. Pathfinder 2d is assisted in the herd by Great Orion 3d by Great Orion. This hog is a splendid prospect for a herd header and his pedigree goes back through a long line of prize winning hogs, including champions and grand champions at leading state fairs.

Carl Faulkner, of Viola, Kansas, owner of one of the good herds of old original Spotted Poland Chinas, reports his herd doing well. Mr. Faulkner has the popular blood lines of the spotted breed in his herd and a feature at this time is the fine lot of young stock, including a lot of good September boars by Dodd's Spotted King, one of the good Spotted Poland sires.

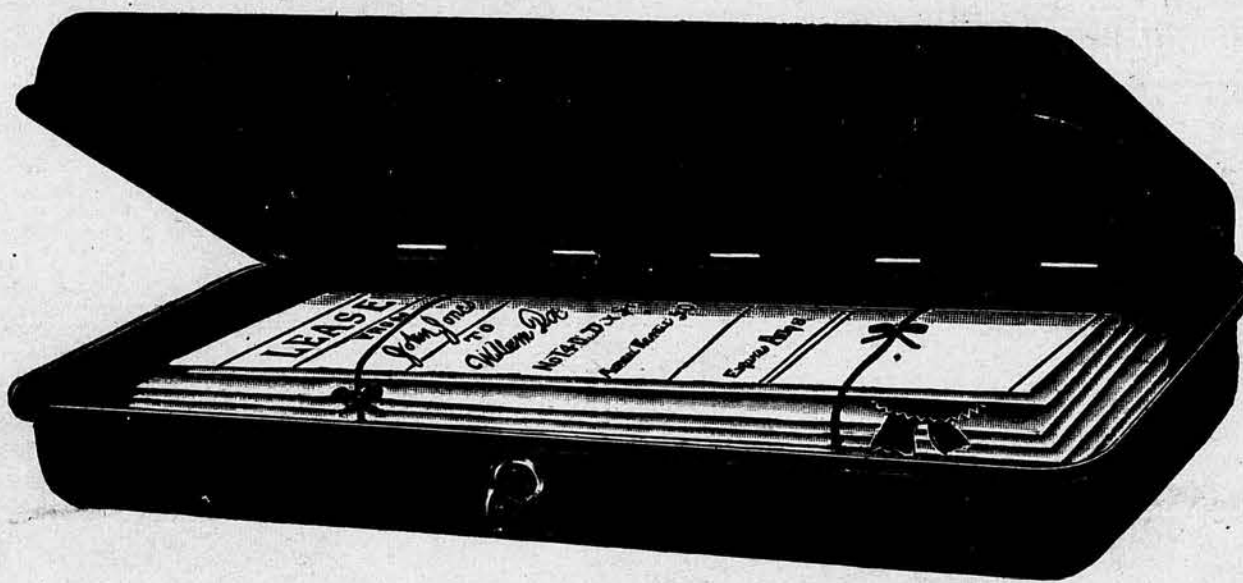
J. J. Thorne, of Valley Stock Farm, Kingley, Kansas, owner of one of the good Shorthorn herds in Kansas, reports his herd doing well. Mr. Thorne has the best blood lines of the breed and a choice lot of individuals in his herd. His herd bull, Barmpton Archer 393464, is a ton bull and a fine breeder. A feature of the herd at this time is the good lot of young stock sired by Barmpton Archer.

Howard Chandler, of Chariton, Iowa, owner of one of the largest flocks of pure-bred Shropshire sheep in Iowa, reports his flock doing well. Mr. Chandler is one of the pioneer breeders of pure-bred Shropshire sheep and his flock is widely known for its choice breeding and high quality. Many of the best flocks now assembled were started with foundation stock from the Chandler Sheep Farm. A feature of the flock at this time is the fine lot of young stock, including a choice lot of young rams.

Volume 39 of the Holstein Friesian Herd Book is now ready for distribution. This volume contains the pedigrees of bulls numbered from 230706 to 244871, and pedigrees of cows from 423671 to 449546, and includes pedigrees approved and admitted for entry to August 7, 1918.

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