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MANGE CAUSES HEAVY LOSSES

More Than Usual Amount of Scab Among Range Cattle of Kansas

NOT in years has there been as much mange in Kansas as there is at the present time. The conditions the past winter have been unusually favorable for its spread. Feed has been scarce and the storms frequent with more than the usual amount of snow. Cattle cannot be safely dipped in cold weather or when in a run-down condition. Cattlemen and sheepmen must of necessity use the most strenuous efforts to check the spread of scabies and mange.

Scabies in sheep is caused by a little louse-like organism about one-fortieth of an inch long. This insidious insect, multiplying on the warm body of its helpless host, saps the animal's strength, causes the protecting fleece to slip away in patches, and the sheep falls an easy victim to exposure.

As far back as the history of civilization lets us see this scourge of flocks has been the despair of the shepherd and even with our boasted knowledge of life cycles of parasites, and of insecticides, unending watchfulness and skill are necessary to keep it from spreading and causing disaster to thousands of great flocks, for it possesses an almost uncanny ability to get from one place to another. Where sheep are trailed long distances to grazing grounds a whole state may become dangerously infected before the disease is known to be well started if expert guardsmen are not on the lookout and if laws are inadequate.

A similar mange affects cattle, but it is produced by a different mite that will not live on a sheep. The one that causes the most trouble in both cases is the common mange mite. The books and bulletins call them "psoroptes ovis" and "psoroptes communis bovis" to distinguish them from each other and from the various relatives that produce similar inconveniences and misery for sheep and cattle and losses for the owners. But for convenience here "mange mite" or "scab mite" or any name such as pest or plague or scourge can be taken as meaning either the one that attacks cattle or sheep or both of them—the common ones that cause the most damage.

Formerly scabies was the greatest drawback from which the sheep industry suffered and it was once one of the greatest hindrances to profitable beef production on our western ranges. However, the work of the Bureau of Animal Industry in co-operation with state live stock sanitary officials has gradually brought the disease under control except for occasional spreads, and if experienced men can be kept on the job and money is provided it will be driven out before many years.

The discovery that certain dips such as nicotine or lime-sulphur solution would kill the mites on the animals led to the making of dipping regulations by the bureau and many of the states where the disease was prevalent. It was found that one dipping freed an exposed animal if done within a few days after exposure and that a second application on affected animals within ten or twelve days got those that hatched since the first without giving them time to lay any eggs themselves. Dipping vats, which are much more effective than

spray pumps, have been built in localities where cattle and sheep are affected. Every year millions of sheep and cattle are given either one or two dippings.

Good progress has been made in recent years in the fight toward ultimate eradication of the disease from every nook and corner of the country, but last year there was a big increase, particularly in sheep scab. The disease broke out in various localities and spread widely in several western states, and in not a few instances scabby sheep have found their way to farms in the corn belt, and even as far east as New York State. Most of this disease recently discovered in the central and eastern feeding sections no doubt came from farther west on exposed sheep that had not been given the one precautionary dipping, because officials did not know of the exposure or it came on sheep that had not been properly dipped because of "green help" recently taken on.

Cattle scab has also been on the increase in recent months, but cattlemen are not suffering to any such serious extent as the sheepmen. Scabies of cattle is pretty well under control and there is much less of it in the country than there was five years ago. Still there are more infected herds than at this time two years ago.

Compared with some of the other diseases and pests that prey on the stockmen's herds and pocketbooks these mites that produce sheep and cattle scabies are of minor importance under ordinary conditions when the prescribed precautions are taken. It is estimated by men thoroughly acquainted with conditions that, in view of the increase in the disease and the high prices of meat and wool, that the annual loss is about \$8,000,000 on sheep and cattle. This big loss, which really amounts to a tax of more than a dollar on every farmer in the country, is due to death of stock, reduced thrift and damage to fleeces. But in addition to this drain on these industries we have to consider the cost to the owners of dipping their animals and the cost to the government for the field inspection and other work that is necessary to keep the plague from destroying a large part of the meat producing industry, which it might very well do if it were not fought every month in the year. It is estimated that if costs the ranchers and farmers around \$2,000,000 to dip the seven million sheep that were treated in the six months beginning the first of last July.

Aside from the direct loss of damages

to the industry there is a depressing effect on Iowa sheep feeders who had an experience with the disease this year—there were forty scabby shipments from that state in January—were discouraged, especially those who had just tried the business for the first time. Many of them wrote to the United States Department of Agriculture and to the farm papers saying that they had ventured into sheep feeding once and that it would be the last time. That attitude is a good indication of what a destructive disease scabies can be when it gets a start. It is not difficult to imagine what the feeling is in a country where 12,000 scabby sheep are discovered as was the case in a county in one western state in January. That means many more thousands exposed.

The experience of the past year may seem to argue a poor system used in combating the disease. But there is nothing wrong with the system, for it has been working very successfully for many years and hope was entertained that before long the plague would be entirely eliminated. Veterinarians and lay inspectors are continually at work in all the principal sheep and cattle states and at all the public stock yards where an interstate business is done. During four months beginning the first of last September, 229 shipments of scabby sheep were found by inspectors at various central markets. This meant that every separate shipment was traced all the way back to the ranch or farm on which it originated and in all these 229 cases everything that was possible, considering men available and the provisions of the state laws, was done to prevent a spread to other flocks and to other localities. Altogether during the last year bureau veterinarians in the field supervised the inspection and dipping of more than thirty million head of cattle and sheep—about twice as many animals as the total of all kinds, received in one year at the stock yards in Chicago. And most of this work is done in sparse grass territory where the number of cattle or sheep per square mile is very small.

The difficulties that come in the way of cure and prevention are many and various. In one section last year where there was an outbreak of cattle scab the drouth was so severe that it was impossible to get water with which to do the dipping. The cattle were out on the range and got their water from creeks and water holes that had not yet dried up, but it was not possible to drive them into the corrals to be dipped even

if there had been enough water for dipping as there would not have been enough for the cattle to drink. That is one example of the troubles that beset the men who are trying to eliminate this disease.

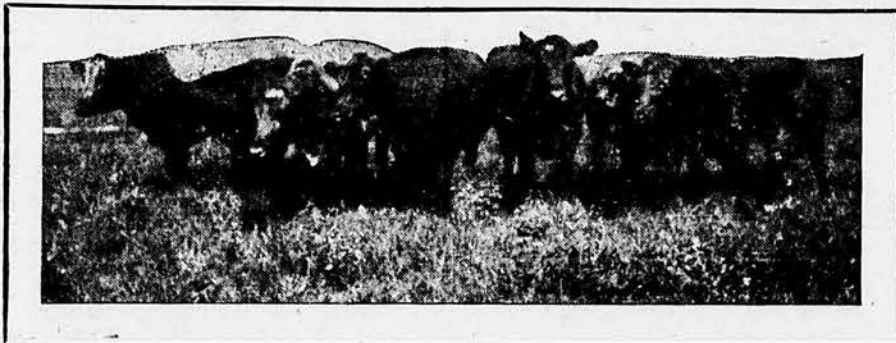
In the spring and summer there are ordinarily about one hundred men from the Bureau of Animal Industry in the field engaged in the campaign against scabies. During the heavy marketing season there are nearly two hundred, veterinarians and other trained inspectors, at the various stock yards who look for scabby cattle and sheep. In the past most of these men have been efficient, well trained workers, but since we entered the war and since salaries offered in other places have risen so noticeably it has been practically impossible to keep them. They have left by the dozens for more remunerative positions. Some of the veterinarians are now doing professional work in other places and quite a few have gone into entirely different work. Not a few of them went into the Veterinary Reserve Corps of the army where they started in at \$1,700 a year. Many of these men had been working for \$1,500 in the bureau. Serum manufacturers and packers have pulled a considerable number away from their government jobs at salaries ranging from \$2,000 to \$3,000 a year. The states in many instances pay more for their veterinary brains than does the federal government and consequently another leak is found there. Montana, for instance, pays her deputy "vets" \$2,100 a year. One lay inspector who had been working for less than the veterinarians get quit his job recently and went to work for the C. M. & St. P. Railroad at \$200 a month. Cattle and sheep raisers in the West have taken quite a number of veterinarians as managers at good salaries and others have gone into the stock business for themselves. One in California who had been with the bureau for twelve years recently quit and went to raising hogs and alfalfa in that state. Several experienced lay inspectors have resigned to enter railroad service—more money.

There are many veterinarians and others in this disease eradication work for the Department of Agriculture who are deeply interested and are determined to see it through even though they could make more money somewhere else, but the result has been in far too many cases that when a man has accumulated enough experience to be considered a top notcher he quits.

Here, then, we have a reason for some of the losses that have been coming to sheep and cattle raisers and also to other stock growers. It not only concerns these men, but the whole country that depends upon them to supply meat at a reasonable price. What will make our live stock safe? The answer is not easy to find.

J. H. Mercer, live stock sanitary commissioner for Kansas, has a big job before him the coming season in cleaning up our flocks and herds, and should have the fullest co-operation of every sheep and cattle man of the state.

Last year the slogan was, "First to fight" for democracy. This year it should be "First to serve" for humanity.



Who Manages The Standard Oil Company?

(Indiana)

SEVEN men, who have demonstrated unusual ability in their particular branch of the business, have been entrusted with the task and responsibilities of management.

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Mr. George W. Stahl
Secretary-Treasurer

Mr. Seth C. Drake
General Manager—Sales

Mr. William E. Warwick
General Manager—Manufacturing

Mr. Beaumont Parks
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are now at the head of the Company's affairs. These men, all residents of Chicago, and all actively engaged in this business, and no other, are the Board of Directors.

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Standard Oil Company
(Indiana)

910 S. Michigan Avenue, Chicago, Ill.

CHOLERA CONTROL WORK

By Dr. H. M. Graffe, U. S. Bureau of Animal Industry

THE task of fighting hog cholera has hardly more than begun in real earnest, but the veterinarians of the Bureau of Animal Industry have as their ultimate object the absolute elimination of the disease from American farms.

What is being accomplished in the control of hog cholera may be read plainly in statistics. Last spring we had very close to 75 million hogs in the country, the largest number ever raised, and the loss from cholera for the last year has been the lowest on record—thirty-nine for every thousand hogs. Assuming that these animals were marketed at an average weight of 200 pounds at the prevailing price for the year, this crop has returned to the producers about 2,250 million dollars. If hog cholera had raged last year as it did in 1913, the loss would have been in the neighborhood of 200 million dollars, and without the efforts of federal and state agents in the proper application of serum and improved methods of handling outbreaks of hog cholera, the program for more meat to meet war conditions would have been a failure.

In 1913, the year of the big loss, the Bureau of Animal Industry, with a number of its veterinarians, instituted a series of experiments in the field to demonstrate what results may be obtained by the proper use of serum and the application of sanitary measures in the prevention of cholera. Three counties were selected in the Middle West, and veterinarians were detailed to show the hog growers that it is entirely feasible to eliminate the disease. With the support and co-operation of the local authorities, farmers and others, these efforts were successful in showing that the eradication of hog cholera is within the bounds of probabilities, and further, a demand was stimulated that has made possible the extension of the work and the suppression of the disease in the principal hog raising states. Success in the further reduction of losses is certain, provided co-operation from the state authorities is continued and it is possible for the Department of Agriculture to offer inducement in the way of increased salaries for trained veterinarians to remain in the service. In the last few years many of these scientists have resigned to accept positions paying considerably more money.

The saving that has resulted from the efforts of the veterinarians of the Bureau of Animal Industry, in the last few years, in co-operation with state and practicing veterinarians, cannot be overestimated and is not fully realized by the public. Senator Kenyon of Iowa, in discussing before Congress some years ago the losses from hog cholera, presented the matter in a convincing manner and pointed out that for the last forty years the loss due to this disease had averaged 50 million dollars annually. Since this drain on the industry had been so regular, he compared the annual loss to the returns from an annual investment of 1,250 million dollars at 4 per cent interest, and stated that this loss, compounded annually, represented an amount sufficient to build a transcontinental railroad or several canals like the one we put through the Isthmus of Panama.

In spite of the drawbacks, the work of hog cholera control by the Bureau of Animal Industry has been extended gradually from three counties in 1913 until it now covers practically the whole of thirty-four states. There are employed by the Bureau about 165 veterinarians to assist the regulatory authorities of the various states in an effort to eliminate this costly disease of live stock. The work in its present scope involves sanitary surveys, the investigation of reported outbreaks of hog cholera, supervising and assisting in the treatment of infected herds, cleaning and disinfecting infected premises, establishing quarantine when necessary, applying state and federal regulations and providing assistance and advice to farmers, stockmen, practicing veterinarians and others concerning the proper disposal of dead animals, and methods of prevention and control of cholera. An important phase of the work of Bureau veterinarians has been to assist in formulating and applying state and federal rules and regulations that require the immunization and proper handling at public stock yards of stocker hogs intended for feeding purposes on the farm, in order that they may be returned to

localities where feed is available without danger of spreading infection. These animals are subject to reinspection from time to time, thus assuring safety to the feeder while the hogs are being finished for market.

Another task that goes hand in hand with the watching of the herd is federal supervision at serum establishments. All makers of serum doing an interstate business must hold a license issued by the United States Department of Agriculture and all of the product sold must pass inspection by federal veterinarians who have thorough training in serum production. Under this arrangement the quality of serum has been gradually improved. Last year more than 271 million cubic centimeters of anti-hog cholera serum were produced by these licensed establishments and only 1 per cent of this was condemned as unfit for use, while the year previous 2 per cent of the total output was rejected. Government supervision has improved the quality of the product and the quantity produced has increased greatly until this year the output will greatly exceed that of any former season.

The Bureau of Animal Industry maintains a force of sixty-five veterinarians in the inspection of anti-hog cholera serum. It is their duty to supervise all steps incidental to the production and handling of serum, such as proper sanitation of the premises, requiring that only healthy animals are used, that all serum and virus is tested for purity and potency, and that the products are properly labeled before being offered for interstate shipment.

With sanitation, the proper use of serum, the judicious application of quarantine measures and the co-operation of farmers and others interested in the production of more and better live stock, there is no doubt that hog cholera, which has menaced the swine industry for nearly a century, will be put away with the cattle tick and other detrimental factors to efficient live stock production, but the work must go on with renewed energy as we learn more about the disease and as farmers gain more confidence. Inducement must be offered to retain the best veterinarians in the work. A permanent appropriation for this class of activities by Bureau of Animal Industry veterinarians should be regarded as a wise investment. When we consider that the lowest annual loss from hog cholera is sufficient to maintain the work in its present scope for a period of sixty years, it looks as if we have been foolish enough to place a small bet on a sure thing.

Care of Pigs Before Weaning

The most rapid and the cheapest gains made by pigs are while they are sucking the sow. Ordinarily it will pay to keep small pigs growing as rapidly as possible. To do this, the brood sow must get plenty of good milk-producing feed as soon as the pigs are old enough to take all the milk she will give. It will not pay to stint on the feed given brood sows at this time, for the most economical gains made by pigs are from the feed consumed by their mothers while the pigs are sucking.

By the time the pigs are a month old they are ready for some extra feed, even though the sows may be extra good milkers and receive feed of the proper kind to their full capacity. As soon as the pigs show any disposition to eat they should have access to a small pen where the sow cannot go. In this pen they can be fed skim milk in a shallow pan or trough and they will soon begin to eat a little shelled corn. After they are well started on this extra feed a slop made of milk, some shorts, a little bran and some linseed oilmeal or tankage should be fed along with the corn. This kind of a ration with proper exercise will prevent thumps or scours.

A good mixture for young pigs is one made up of four parts by weight of corn, four parts shorts, one part bran and one part tankage. As the pigs become older the corn may be gradually increased to double the amount given.

In addition to proper feed it is of greatest importance that little pigs have plenty of sunshine and exercise. Sunshine and exercise cost no money, but are absolutely necessary for the best results.

Put on the thinking cap and do not let other work crowd out the chicks.

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THE VICTORY LOAN

Our patriotism will be submitted to the acid test in the campaign for the Victory loan, which will begin April 21. The war is won, but the country has enormous expenditures to make in payment for the munitions of warfare which were prepared on such a tremendous scale. Previous loans have had the fire of actual combat with our enemies to arouse our enthusiasm. This one will test the genuineness of our gratitude toward the men who by their personal sacrifices enabled us to do our part in making the world a tolerable place in which to live. We cannot afford to lapse into a comfortable, well fed attitude until every debt has been paid as far as it is humanly possible to pay it. Our dollars made possible such tremendous preparation of war material that Germany collapsed a year earlier than was expected. Probably half a million of our boys were saved by this earlier termination, made possible because we spent our money so lavishly. In meeting the Victory loan, which is necessary because our government had faith in the generosity of the people and made these vast preparations, we can show our gratitude and thankfulness that so many of our boys have been saved. Every Liberty loan has gone over the top, and we should pay our debts in a business-like way and put the Victory loan over just as enthusiastically.

REPORT OF HAYS MEETING

We are presenting in editorial form a number of the important things which came out at the roundup meeting held at the Hays Experiment Station last Saturday. Owing to the fact that the meeting came so late in the week, we could not give any of this material in the feature pages. It is to be regretted that the condition of the roads following the heavy snowfall of last week made it impossible for many to get to the station farm for this important meeting. The farmers of the western end of the state depend largely on the automobile to get across the country, and particularly in a north and south direction, as there are no railroad facilities except for east and west travel along the main lines. Superintendent Weeks fully expected an attendance of twenty-five hundred and had planned to serve lunch in the seed barn to that number. There was no gloom pervading the meeting, however, due to the weather conditions. Everyone knows that this snowfall practically assures enough moisture to carry the wheat through to a record crop.

Actually seeing the results of the year's experiments in the feed yards is a great help in getting the lessons of the various tests firmly fixed in the mind and it is worth a great deal to meet with a large number of men having the same problems. We will make a special effort to give our readers the lessons brought out, so that those who could not attend can at least read of what happened. Next week we will present features which are of necessity omitted this week from lack of space and time to prepare for printing.

The program was carried out as planned. A short talk was made in the forenoon by the new dean and director of the Kansas Agricultural College and Experiment Station, F. D. Farrell. Mr. Farrell made a good impression upon his hearers and with those he met at the meeting. E. E. Frizell, the United States farm labor commissioner, told of the plans for handling the labor problem in the coming wheat harvest. O. H. Swigart of Salisbury, Missouri, the well known Galloway breeder and importer, was present and gave a most interesting talk on the importance of breeding better animals and some reminiscences of his visit to Scotland and Ireland in search of animals for importation.

Dr. H. J. Waters, editor of the Kansas City Weekly Star and former president of the Kansas Agricultural Col-

lege, also made a most interesting talk on the live stock problems of the country.

Following the lunch at the station seed barn, W. M. Jardine, president of the Agricultural College, took charge of the meeting, and after speaking most forcefully on the needs of Western Kansas agriculture, and particularly on the importance of developing the live stock interests, introduced Charles R. Weeks, the popular superintendent of the Hays Station, who reported in considerable detail on the results of the various lines of work for the past year. He was followed by Dr. C. W. McCampbell of the animal husbandry department of the college, who carefully analyzed the results of the figures presented on the various live stock tests of the winter. The results of the tests are printed in a circular which is available for general distribution. Copies can be obtained by addressing the Fort Hays Experiment Station, Hays, Kansas.

The two hundred or more visitors were hauled around on hayracks and other extemporized conveyances to see the animals in the different feed lots. A good many of those present were so enthusiastic that they were not deterred by the mud and slush from getting down and tramping about in the yards.

LIVE STOCK AND BAD YEARS

Live stock saved the day at the Fort Hays Experiment Station during bad crop years. Including all kinds of stock, there are over twelve hundred animals now on the station farm. This big experimental farm, the biggest of its kind in the world, is helping to solve many of the problems which Western Kansas farmers cannot afford to solve for themselves. Getting accurate information on crops and methods is expensive business and to a large extent must be paid for by the state. A part of the big farm, however, is run as a commercial proposition, and Superintendent Weeks showed most conclusively in his address at the round-up last Saturday how important the live stock has been in helping the station get by in the bad years. In the good wheat years wheat is a paying crop, and the profits help pay for some of the expensive experimental work. In 1917 the wheat crop was only 3,000 bushels, the yield being so small that it barely paid expenses of production. On many a Kansas farm similar conditions existed that year and also in other years. In fact on many farms the wheat did not even pay the expense that had been put into it. The experiment station had been developing its live stock and had something to sell. It could not borrow money, as does the private individual providing he has the necessary credit at the bank, and the only means of overcoming the deficit of the poor crop year was to fall back on the live stock. We will not attempt to give the details of this conversion of live stock resources into cash at these critical times. It was done and without sacrificing herds and flocks. It was possible because for years the policy of the station farming has been to conserve feed. We well recall how in the fall of 1911 every stalk of fodder on the place was harvested and put into the shock or stack. In corn fields where the growth was so small that it could be cut with a wheat binder, the crop was saved for feeding. The two silos which had just been put up on the dairy farm were filled and during the winter of 1911 and 1912 all this feed was hauled to the yards and fed to the cattle. The stunted forage was all converted into a real asset in the form of live stock. On many a farm this material was a total loss. In later years the station has followed this practice, at times finding it possible to buy additional live stock when ranchmen and farmers were sacrificing stock because of feed shortage.

Last year the experiment station produced 544 tons of alfalfa, 380 tons of wheat straw, 200 tons of sorghum fodder, 50 tons of corn fodder, 30 tons of

Russian thistle hay, 25 tons of Sudan grass hay and 800 tons of silage. The only feeds purchased were those that could not be grown, such as oats, linseed oil meal and cottonseed cake. There was enough surplus rough feed of various kinds to permit the selling of considerable alfalfa at prices ranging from \$25 to \$35 a ton. Some fodder was sold at \$8 a ton.

The most important point in the report of Superintendent Weeks was his setting forth of the facts as to the relationship of live stock to permanence in Western Kansas farming. His book records showed that in 1917 the alfalfa, which is of course grown only on the creek bottom land, returned a profit of \$20 to the acre, and in 1916 \$28.11. Corn in 1917 returned but 25 cents to the acre, and \$1.32 in 1918, and this was not from grain but the profit from saving and feeding the forage part of the crop. In 1917 the sorghums returned \$41 cents to the acre, and in 1918, \$18.24. The wheat profits were considerably swelled because the station was able to sell Kanred wheat for seed at \$1.15 over the market price.

It now seems that nothing can prevent there being a big wheat crop in the wheat belt this year. Not in years has there been more moisture stored in the soil. Mr. Weeks in closing urged that some of this wheat money be put into silos, sheds and other equipment for handling live stock. He said: "You will be appealed to from every side to spend the money you get from your wheat crop for things you do not need. If you would make yourselves secure for the years to come, turn a deaf ear to these appeals until you have first built the silo and made other investments to enable you to safely handle live stock."

SILAGE OR FODDER

In the test comparing the feeding value of an acre of kafir in the silo and an acre in the shock, the figures given out at Hays last Saturday show that it took twenty acres to feed the cows in the fodder lot and 11.23 acres to feed the cows in the silage lot. There were twenty mature breeding cows in each lot and in addition to the silage or fodder each cow received two pounds daily of cottonseed meal. Reduced to an acre basis, this means that an acre of fodder fed a cow one hundred days and fifty-six hundredths of an acre of silage fed a cow one hundred days. The fodder and the silage came from the same field, alternate strips of ten rows each being placed in the shock and in the silo. The cows in the silage lot consumed 31.5 pounds of silage daily to the cow, and the cows in the fodder lot consumed 24.6 pounds of fodder to the cow. Of course much more of the fodder was rejected, but they were charged with all that was hauled to the racks.

The daily cost of feeding a cow in the silage lot was given as 15.6 cents and in the fodder lot 16 cents. Some difficulty was experienced in settling upon a price to charge for the fodder and the silage. The prices finally used were \$8 a ton for fodder and \$6 for silage. The actual cost of growing the crop and putting it into the silo was \$3.95 a ton. It cost \$5.12 a ton to grow the crop and put it into the shock. The yield of silage was 2.84 tons to the acre, and the fodder yield 1.23. It is our guess that the fodder hauled in from the field through the winter as it was fed was wet much of the time and therefore heavier than fodder would be in normal years, or in other words contained a good deal more moisture than ordinarily.

The safer and more positive comparison is on the acre basis, and the figures show that it took almost twice as great an acreage of fodder as of silage to winter these cows. Little difference could be seen in the two lots of cows, although the figures showed that, considering the weight of cows and calves together, the silage-fed lot had lost more in weight or an average of about ninety pounds to the cow in the period from De-

cember 20 to March 29. More cows had dropped calves in this lot, and that might account for part of the loss. The average loss for the fodder lot was a little over seventy pounds per cow.

It has long been maintained by men who have had experience with silos in the corn belt states that this method of preserving fodder practically doubles the live stock capacity of the farm. These acre comparisons of a kafir crop fed as silage and as fodder would indicate that the same claim might be made in the sorghum belt. The crop in this instance was practically without grain. The grain yield was only eighty pounds to the acre.

NEW IDEA IN SILO PRACTICE

A new idea in Western Kansas silo practice was suggested by Superintendent Weeks at the Hays meeting. We have long been convinced of the necessity of using the silo to store a reserve of feed in the good feed years, and urged it many times at farmers' meetings we attended, and since leaving the extension work of the agricultural college for the editorial work of KANSAS FARMER we have advocated the same idea in the columns of our paper. It is the only safe means of insuring against a shortage of feed in the poor years, which so often means the sacrifice of stock. There can be no permanence in live stock farming as long as there is the possibility of a poor feed year forming premature liquidating of foundation stock. Live stock must be a year in and year out business. You can go in and out of grain farming without any great sacrifice or losses, but not so with live stock farming, and for that reason perhaps Western Kansas has not developed generally a system of live stock farming. There must be assurance of feed every year. The growing of feed and the planning for an assured feed supply every year must be a factor in live stock farming. Any other method of handling live stock under western conditions is but speculation and in fact nothing more nor less than gambling with nature, as many a man has realized to his sorrow from the experiences of the past winter. The severe snowstorm of last week which extended over the western half of our state resulted in the loss of hundreds of cattle from exposure and lack of feed.

Professor Weeks urged the storing of a big reserve of feed in the silos when the cane and others of the sorghums grew tall and rank. These crops are easy to handle under these conditions, and the silage can be produced and stored at a low cost. His idea was that it would be possible to harvest the forage crops in the poor years by less expensive methods. In the years when it is necessary to haul stunted crops from a big acreage to fill the silos the filling cost per ton and the cost of production is greatly increased. By having enough silo capacity the small stunted crop might be hogged down in the field at a minimum of expense without putting any more labor on the crop which has already cost too much because the yield is so light. The reserve feed in the silos which was put up more economically can be drawn upon for winter feeding after the short crop has been fed down. In the West where pit silos can be used to supplement the more expensive and convenient silos, the plan suggested by Mr. Weeks might be followed with profit.

In 1914 the United States exported \$3,000,000 worth of dairy products. During the past year \$96,000,000 of dairy food went across the sea. It is estimated that the butter, cheese and condensed milk exported in 1918 required 2,500,000,000 pounds of fluid milk. Of course a large portion of this huge total went to the American soldiers abroad. However, the year 1919 will probably see the central countries of Europe in the market for dairy products and this will help keep the export trade on a high level.

GRANGE IN WASHINGTON OFFICE

Clear Course Charted in Reconstruction Program Adopted at National Meeting

THE National Grange is on the job at its Washington office, 303 Seventh Street, N. W. In its second monthly bulletin to the agricultural press the problems to come before the Sixty-sixth Congress are discussed and the stand the Grange will take as these various issues come up for settlement is set forth. The fact that most of the committee chairmen in the new congress are men of experience and of high standing is a matter for sincere congratulation, says the statement issued from the Washington office. In this bulletin it is pointed out that the currents and cross currents of contending political and economic thought which swirl about the national capitol, complicated and confused by class and individual interest, make here a maelstrom in which even the most experienced find it hard to steer a straight course.

The Washington representatives of the National Grange are fortunate in that they have on most matters now up for consideration a safe and very definite compass by which to steer. In the record of fifty years of Grange progress there is charted a clear course in certain directions, stated at each annual session and in particular summed up, restated in plain language and passed upon by a unanimous vote in the form of a Grange reconstruction program at the annual session at Syracuse, New York, last November.

The first problem before congress—the biggest one—will be to bring the government down to earth in its governmental expenditures. James W. Good will probably be the chairman of the committee on appropriations. He is pledged in public statements to stand square on the Grange platform. War

commissions, and other activities masquerading under the cloak of war necessities must be cut off. "Just as we earnestly urged the spending of the last dollar, and the use of the last man," says the Grange, "to win the war, so now we as insistently demand that the most rigid economy shall be exercised in governmental expenditures." Interpreting this in detail it means that every present adjunct of a government department must, before it is continued, whether maintained for research or investigation or to aid some favored interest—even agriculture—show its own present merit. Besides cutting off many useless and duplicating activities, each department must come down to business efficiency and economy. This is the Grange program of economy.

The next problem of congress will be revenue raising. The fundamentals of expenditures and revenues, and their relationship, must not be lost sight of. Representative Good estimates the 1919 cost of government at upwards of ten billion dollars. He says that no budget of the future will be less than \$3,800,000,000, or about \$30 for each person in the United States. The Grange is pledged to a budget system as a first essential, but wants to know how it is to be administered. The Grange is pledged to an income tax with a progressive surtax conditioned upon a maximum of 80 per cent on all incomes over \$500,000. The Grange is pledged to a tax to prevent land speculation and land tenantry, seeing no other weapon to use against the present dangerous tendency in this direction. The Grange is pledged to a tariff in which farm products receive equal protection with any or all other commodities.

The railroad problem looms large. The Grange is pledged as follows: "For thirty-five years the Grange has advocated the strictest governmental control of railroads. We demand that when the railroads are returned to their former owners in accordance with act of congress, the abuses of the past arising from over-capitalization and mismanagement be corrected. We favor co-operation between railroads that necessary economics in management may be accomplished and the most efficient service rendered to the public." Many plans for the future of the railroads are under consideration. The Grange will be represented on any plan finally wrought into a bill for committee consideration.

Price stabilization is being considered from many angles. In plain language this means "price fixing." The Grange opposes price fixing, but says plainly that if the price of any farm product is fixed, the price of every item which enters into its production should be fixed. Thoughtful persons will do well to study the troubles so-called price stabilization is having just at this time.

Control of the food packers is another big problem. The Grange has many years of record in opposition to government ownership, but in favor of the strictest possible government control. The Kendrick bill, with some amendments, seems at this time to meet the requirements most closely.

The army and navy program must await the outcome at Paris. The Grange has asked for the most rapid possible demobilization. Farms for soldiers has strong Grange support—not as put forward in the last congress, but subject to two principles: first, farms only for those soldiers who want them; second,

farms near established market centers under such terms and assistance as will lead to ownership and self-respecting occupation.

Two subjects are in the public mind on which Grange expression is not formulated up to date—the merchant marine and the League of Nations. To the League of Nations the Grange is committed strongly in principle, but has no statement as to details. On the merchant marine question the fact that the government now owns the ships and the yards interposes an obstacle to the application of the Grange principle opposing government ownership. The activity of the Washington representatives will be guided by the consensus of Grange opinion as it develops during the next few weeks on both these questions.

On one subject the Grange wishes to ask the support of all farmer people: "Where an agricultural position is to be filled, the appointment of a real agricultural representative is demanded." Agriculture is entitled to the recognition its importance demands on all state and national boards. The men selected must be practical farmers, in sympathy with farm life, "identified in vocation, ideas and effort," so that representatives of agricultural interests and agricultural workers will rally around them with confidence in their leadership. Insistence on this principle is a cardinal feature of the work of the Grange in its Washington headquarters.

I hope that after having discovered the benefit of fresh and cool air applied to the sick, people will begin to suspect that possibly it may do no harm to the well.—B. FRANKLIN.

Sweet Clover Pasture for Cows

SWEET CLOVER is destined to become a most important pasture crop. This is especially true in Eastern Kansas. Obtaining new information on the possibilities of the crop for dairy cow pasture has been a feature of the dairy experimentation at Manhattan for several years. The season of 1919 was rather unfavorable for getting sweet clover started in that vicinity. It had been the practice to sow the sweet clover with oats, and thirteen acres were seeded last spring to take the place of other fields to be plowed up, but it was so dry and hot when the oats were cut for hay that the sweet clover made a poor stand and a poor development over most of the field. This condition, however, will not prevail every year, and the value of the crop has been so fully demonstrated that last season's results in getting a stand have not discouraged the dairymen at the agricultural college.

Prof. J. B. Fitch, head of the dairy department of our agricultural college, is urging the increased use of sweet clover as a pasture crop for milk cows. In a leaflet of the extension division he tells of the results obtained in a pasture experiment during the season of 1916-17. The pasture used was second year's growth of the common white sweet clover, which had been seeded the previous spring in oats and a cutting of hay taken from it in the fall. The clover made a good spring growth and the cows were turned in May 7. Six pure-bred Holsteins were put on this three-and-eight-tenths-acre patch of sweet clover. They had been receiving a ration of alfalfa hay, silage and grain. They had never eaten sweet clover in any form before, but within an hour after they were turned on this pasture they were all grazing and apparently quite contented. For forty days these six cows obtained an abundance of pasture from the three and eight-tenths acres of sweet clover. By July 16 the weather had become dry and hot and checked the growth of the clover so that three cows had to be removed. The pasture improved later, and on August 5 one of the cows was returned and from that time until the end of the season the four cows were pastured continuously. During the whole season the cows were on the pasture day and night, receiving

a grain ration consisting of a mixture of four parts corn chop, two parts bran, and one part oilmeal. They were given one pound of this for each four pounds of milk produced daily.

This pasture of sweet clover furnished the equivalent of 618 days of pasture for one cow, or an average of 154.5 days for four cows. In other words, it kept four cows five months, or one acre sup-

plied pasture enough for a cow five and three-tenths months. The total amount of milk produced by these cows while on sweet clover pasture was 19,393.5 pounds, containing 680.5 pounds of butter fat. They consumed 4,802.8 pounds of grain. Valuing the grain at \$60 a ton and the milk at 30 cents a gallon, one acre of sweet clover was estimated to produce \$141.70 worth of milk. Fig-

uring butter fat at 50 cents a pound, the acre returned \$59.50 worth of butter fat. This makes no allowance for the value of the skim milk.

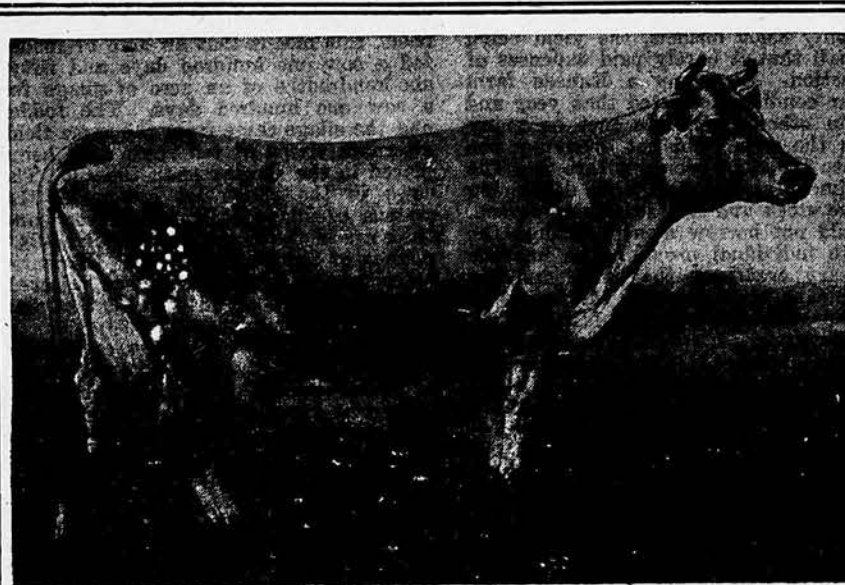
The cows in this experiment were weighed every ten days in order to determine the effect of the pasture on their body weight. They held their own throughout the whole period of the test. When turned on the pasture they averaged 1,284 pounds and at the close the average weight was 1,304 pounds.

The question of bloat is frequently raised in connection with the pasturing of this crop. During thirteen days of this experiment it rained, but at no time was there the slightest trouble from bloat. It is generally believed that there is very much less danger from bloat in pasturing sweet clover than in pasturing alfalfa.

Summer Feed for Cows

The hot part of the summer season is always a critical period for the dairy cow. Flies and hot weather are given as reasons for cows falling off in milk during this period. Lack of proper feed is a contributing cause often overlooked. To provide against this contingency plans must be made in the spring. J. E. Payne, of Parsons, Kansas, tells of visiting a successful dairyman last summer whose records showed that his cows were giving as much milk as they gave during May. Mr. Payne asked him how he protected his cows in order to get such results. He replied that it had been his experience that cows got very little feed from the pasture during July and August. To make up for this shortage he fed his cows plenty of silage and grain.

Knowing in advance that he would be short of silage for summer feeding, he had a field of sweet corn which was ready for use just as the pastures failed. This was fed green, enough being cut and hauled to the cows each evening for a day's feed. He had also used feterita, kafir and cane in the same way. His experience led him to believe that the falling off in dairy production during the summer is more often caused by lack of feed than by hot weather and flies. There is a lesson in this incident to every man who plans to milk a few cows through the summer season.



SHOWN here in her thirteen-year-old form is Sophie 19th of Hood Farm. She has just recently completed her eighth official year's record. This famous Jersey cow began making official records as a two-year-old, her first year's production being 7,050.2 pounds of milk and 395.9 pounds of butter fat. Her highest year's record is 17,557.8 pounds of milk and 999.1 pounds of butter fat, made when she was seven years old. With the record just completed in her thirteenth year—8,688.2 pounds of milk and 507.2 pounds of butter fat—she has a total official milk production to her credit of 100,557 pounds and 5,787.6 pounds of butter fat. As an official record this places her 800 pounds ahead in butter fat of any official records of continuous production that have been made by cows of any breed. The Jersey men are hailing this cow as the world's champion long-distance cow. Her last year's record closed on her fourteenth birthday. She is expected to calve again soon and will be started on her ninth official record. This cow is the granddam of Sophie's Agnes, the first Jersey cow to make 1,000 pounds of butter fat in a year.

GENERAL FARM AND STOCK ITEMS

Something of Interest for All—Overflow from Other Departments

AT THE Fort Hays Experiment Station red amber and other good local varieties of sorghum yielded more silage than any other crops planted. Last fall two 160-ton silos were filled largely with red amber sorghum and this silage was a very important factor in wintering the large number of cattle kept on the station farm. Silage has well been called the winter pasture. The results obtained at Hays in feeding live stock on silage furnish a valuable lesson for stockmen in that section of the state.

Pertinent Sorghum Questions

Sorghum kafir and darso are two new sorghums about which many questions are asked. We are too prone to take up with new and sometimes widely exploited varieties of farm crops without having full knowledge as to their characteristics and adaptation to conditions. Ralph Kenney, of the extension service of the agricultural college, furnishes the following information about darso:

It is a sweet sorghum, originating from a single head in Logan County, Oklahoma, in 1912. It has brown seed and a short stalk with slightly sweet juice. It produces less forage than Kansas orange, red amber or sumac cane, therefore has no place where these varieties will mature. For feeding, its seed must be classed with cane seed, since it possesses the tannin which gives cane seed its unpleasant taste. Last year the Oklahoma Experiment Station fed three lots of hogs with corn, kafir and darso, feeding each lot tankage as a supplement. It required 348 pounds of corn to make a hundred pounds of gain, 370 pounds of kafir, and 423 pounds of darso. These figures indicate that darso grain has a feeding value practically the same as other cane seed.

The tests made with darso in Kansas indicate that it does not come very true to type. In some instances it seemed to mature early, while in others it failed to mature.

The Schrock kafir is really to be classed with the sweet sorghums. It has the short stalk and slightly sweet juice. In Kansas tests it has produced less forage than the Kansas orange, sumac or red amber cane. It has a brown seed and as grain must be classed with cane seed. No experimental tests have been made to show its exact feeding value as a grain, but in all probability it is in the same class as darso or orange cane seed.

Mr. Kenney is of the opinion that these varieties are not likely to become important in Kansas. The red amber cane will mature as early as either of them and produce more forage. Dwarf yellow or white milo, feterita and Freed's sorgo will mature as early as either the darso or Schrock kafir and produce more grain and the grain has 25 per cent higher feeding value.

Are Sorghums Hard on Land?

In urging the growing of more sorghums, the objection that sorghums are hard on the land is frequently made. It must of course be admitted that any crop making big yields is hard on the land in the sense that it removes a lot of plant food material and moisture, but what do we grow crops for if not to take something from the soil that can be fed into stock and later sold, or sold direct? The most successful farmer is defined by Ralph Kenney in a recent leaflet of the extension division of the agricultural college as the one who produces the greatest amount of crops and returns something to the soil to keep it as fertile as before. The next best farmer is the one who takes off as large crops as he can, makes a good living and has money in the bank by so doing, but fails to keep his land fertile. The poorest of all farmers is the man who takes away so little from his soil in the way of crops that he barely lives, and yet his soil washes away because he has broken up the prairie sod.

The reason the sorghums are so generally considered hard on the land is that other crops quite often make low yields on the land the following year. The sorghums are not more exhaustive of fertility than other crops in proportion to what they produce. They remove no more plant food to make a

pound of crop than do other plants, but they do leave the ground in poorer condition for crops the following season. All of the sorghums grow late in the fall, and as a result draw heavily upon available water and soil fertility so that very little is left for a spring crop. It takes time to make soil fertility available and it also takes time to accumulate a reserve of moisture.

The soil is not permanently injured by the growing of the cane or kafir. In the rotation plans recognition must be given to the manner in which the sorghums use the available fertility and moisture late in the fall. A very good method of overcoming the lack of moisture is to blank list kafir ground in the fall. The furrows catch the snows and rains of winter and hold the water instead of permitting it to run off, as is so often the case where the ground is left perfectly flat. One of the most important considerations in growing crops in sections of light rainfall is to make every effort possible to get the moisture which falls into the ground.

Young Lambs May Need Aid

The young lamb may need aid in getting started to nurse. It will need little to eat until an hour or so old. Then it should be made to nurse, and if it is weak and indisposed it may need help. It is important to see that the young lamb gets hold of the teat and not strings of wool. The careful shepherd will trim the wool away from around the udder of the ewe. At the same time it is well to trim around the fallhead of the ewe, removing foreign matter that may cause worms. Likewise, the trimming operation may as well include the toes of the ewe, which should be trimmed once a year to prevent foot sore and rot. Lambs begin to eat grain feed early, if the ewes are fed in a low box. As soon as the lambs learn to eat well they should have separate feeding places.

Scours and Thumps in Pigs

Scours and thumps are probably among the most common troubles of young pigs and are largely the result of improper feeding and careless methods of management. Scours are usually caused by making some abrupt change in the feed of the sow, by overfeeding, by dirty pens and troughs, or the exposure of either the sow or the pigs to cold rains. Since the trouble is associated with indigestion, the thing to do is to watch especially the feed. Making a change from sweet milk to sour milk

or the feeding of too much tankage or linseed meal to sows not accustomed to these feeds will sometimes cause this trouble. Every good hogman knows that pigs do best when kept in dry, clean quarters, and fed in clean troughs. Bad results are almost sure to follow if little pigs are allowed to become chilled in any way. Sometimes scours will be caused by sows running through filthy wallows in the yard so the pigs get infection of some sort as they suckle.

A variety of remedies are used to correct scours in little pigs. The first thing to do is to cut down on the sow's feed and clean up the quarters thoroughly if they need it. Some get good results from feeding a tablespoonful of sulphur in the sow's feed for two days. Others give the sow a good physic of epsom salts. Feeding scalded milk is another good remedy. Charcoal is also good for correcting the difficulty. There is a contagious form of this disease called white scours, which is much more difficult to handle. The cure for this is to thoroughly clean and disinfect the pen and give a good physic.

Thumps is almost always the result of too little exercise, lack of sunshine and high feeding. The remedy is to cut down on the sow's feed and to force the pigs to take more exercise in the sun. Thumps sometimes occurs in older pigs after they are weaned. As a rule the trouble in the larger pigs is some affection of the lungs or bronchial tubes.

Farm Education for Soldiers

The trend toward better agricultural education is nowhere reflected more clearly than in the work of the federal board for vocational education among the disabled soldiers, sailors and marines. The number of boys who have been raised on farms of the non-progressive type is considerable, and a large proportion of them now desire to receive specialized education in order that they may go back to the old home place, pull it out of the haphazard rut and put it on a paying basis.

The sights these boys have received in France where the thrifty French farmer has brought intensive agriculture to a science to where almost unbelievable amounts are raised on small acreage, have undoubtedly made a strong impression upon our returned soldiers. They have decided that, after all, scientific agriculture and management is really something of actual value.

Many of these men are badly disabled and will never again be able to

rely upon brute strength, which before the war was their chief and only asset. They have now become convinced that mere strength does not amount to much, and it is the expert knowledge and ability to direct which does count most greatly. This education is given them absolutely free by the United States government. They are sent to the best agricultural schools in the country, paid a support allowance of \$65 a month while pursuing their studies, and all other expenses are defrayed by the federal board. The board is especially anxious to get in touch with farm boys who have returned and have found themselves unable to make progress without special training, and all letters of inquiry are welcomed by the board, the address of which is Washington, D. C. It has been designated by congress to have entire charge of the vocational re-education and placement of disabled soldiers, sailors and marines.

Silo a Bank for Sorghum Cash

G. S. Ray, of the Colorado Agricultural College, is urging the plains farmers of that state to deposit their sorghum crops in a silo bank. He says that a sorghum crop when put in a silo will yield interest like money in a bank. Sorghums and silos go together under conditions such as prevail in Western Kansas. The experience of the Fort Hays Branch Experiment Station and that of many live stock farmers prove the value of this combination as a feature of safe farming. Here are some of the reasons given by Mr. Ray for urging the silo and sorghum combination, and some suggestions for handling the crops:

"Silage is the most economical form in which to utilize sorghums.

"Sorghums are more productive than corn in many of the plains counties.

"Sorghums have a great resistance for dry weather and drouthy conditions.

"Sudan grass, amber sorghum, kafir milo, and feterita may all be siloed.

"Soil for sorghums should be prepared the same as for corn.

"Sorghum silage ranks next to cow silage in feeding value.

"Sorghums are a hot weather crop and require a warm soil before planting."

"Seed sorghums in rows so as to permit cultivation.

"Sow six to ten pounds of seed per acre.

"Silo sorghums when the seed is mature."

Liming Soil

A great deal of interest is being taken in the matter of liming soil. Many soils in Eastern Kansas, and particularly in Southeastern Kansas, need lime. The cheapest form in which to apply this is as ground limestone. If you do not know whether your soil really needs lime or not, you can easily test it by liming a few square rods. Twenty-five pounds of ground limestone spread on a square rod is at the rate of two tons to the acre. Liming a square rod here and there on various parts of the farm will give a fair idea as to the advantage which may come from spreading lime in a larger way. If these tests show that the soil really needs lime, plans can be made to spread it over the whole field. In the same way fertilizer tests can be made. The co-operative tests of this kind under the direction of our experimental station are of great value. All over the state such tests are being made.

Sorghums Outyield Corn

A variety of corn adapted to local conditions was planted each year from 1915 to 1918 inclusive on upland at the Fort Hays branch experiment station in the same field with the sorghum varieties. Albright's White Dent was used in 1914, Minnesota No. 13 in 1915, 1916, and 1917, and Bloody Butcher in 1918. The corn usually came up uniformly and grew rapidly early in the season, but later on it always suffered more from grasshoppers and hot winds than did any of the sorghums. Corn produced an average forage yield but one-third to two-fifths as heavy as that of the best sorghums; it yielded only one paying grain crop in the five years, namely in 1915 when growing conditions were unusually favorable.

Precipitation of March, 1919

Reports Furnished by S. D. Flora, Meteorologist, U. S. Weather Bureau

(The amounts include the moisture from rain and melted snow and sleet.)

[illegible]

THIS was an ideal spring month for crops in all parts of Kansas. The moisture in the ground was abundant in every county and the weather, while mild enough for wheat to make a splendid growth, was not sufficiently warm to force vegetation ahead of the season.

Wheat completely covered the ground in the eastern half of the state and was beginning to cover it in many localities in the western. No complaints on its condition were received from any reporters and no damage from insects or other pests was reported. Farm work was delayed until the closing week by continued wet fields, but it was pushed rapidly when they dried out and by the close of the month the bulk of the oats crop was in and it was coming up in the southern counties. Considerable barley was sown in the western half. Planting gardens and potatoes was in full swing.



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Concrete for Permanence

Beginning in Pure-Breds

MANY farmers hesitate to begin with pure-bred live stock because of a conviction that only the old established breeders with big reputations can hope to get the high prices being paid for pure-bred stock. It is quite natural that the inexperienced man should have this feeling. Frank D. Tomson believes this attitude is the result of the conception which the average man has of the situation, and is due in part to the attitude of the breeders themselves in the earlier periods of improved stock breeding in this country.

In discussing this question recently Mr. Tomson pointed out that there has come a change and there is now not much distinction in the matter of prices between the breeder of long experience and the beginner provided the merit of the offerings as to breeding and individuality is quite similar. This change in the situation has been caused very largely by the association sales held under the auspices of the record associations or state, district, and county associations. Particularly in Shorthorn sales is this change of sentiment apparent. Those who have been foremost in the affairs of the breed have recognized that the opportunity of the beginner and the small breeder to obtain a ready market for their productions, however limited in numbers, is one of the chief assets of the business. So it has come about that associations embracing a locality, a county, district, state, or several states have been encouraged and frequent auction sales have been arranged under their direction or under the management of the American Shorthorn Breeders' Association. This plan was adopted in order that the man having a few head could present his surplus to the prospective buyer alongside the man with the large herd and longer experience.

Out of this steadily growing practice have developed many interesting results. In the recent National Shorthorn Congress at Chicago where 254 animals were sold at an average of \$785, a Michigan firm, C. H. Prescott & Sons, sold seven head for an average of \$996 which was \$111 above the general average of the sale. This was the second time this firm had ever offered any Shorthorns in a public sale. They made their initial offering a year ago at the first Shorthorn Congress, disposing of seven head for an average of \$775, an amount considerably in excess of the general average. Prescott & Sons have not been long in the business, nor are they located in a section that has been known as a Shorthorn breeding district. They used good judgment in their selections and they applied proper care to their cattle. When their productions

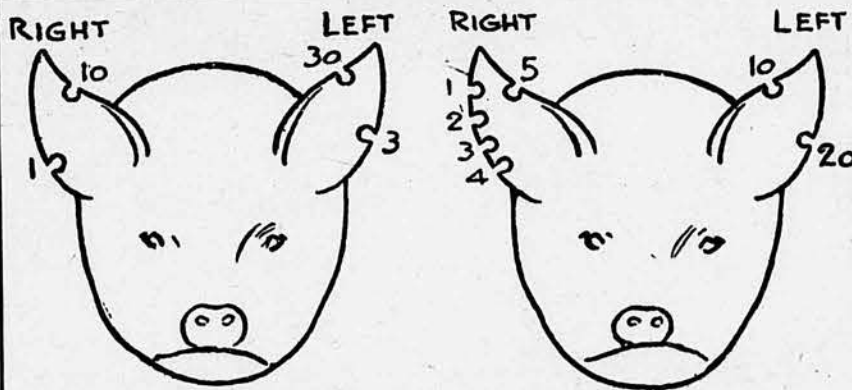
were offered in the Congress sale they found a ready market at strong prices.

Another rather striking illustration was had in the Milking Shorthorn Congress at Erie, Pa., late in March, where 107 head were sold at an average of \$515, a range of prices fully satisfactory to the sellers. In this sale the firm of E. E. Ladler & Son of New York made their first offering to the public consisting of three head, two of which they had bred. One of the two sold for \$1,850, the highest priced animal in the sale. The other sold for \$600, the third which was not of their breeding sold for \$450. The average for the three was \$967, nearly double the average of the entire offering, which to a very large extent represented the surplus of well established herds. It is an interesting fact that in both cases mentioned breeders of wide acquaintance were the contending bidders for the several lots.

These are typical examples of what is occurring where Shorthorn trade exists and happily the tendency is growing. Mr. Tomson refers to this breed because of his familiarity with it and his connection with the American Shorthorn Association. To the inexperienced it seems rather a peculiar fact that as the number of registered herds increase the trade becomes stronger. And he is surprised to note that the beginner seems to command equal advantages with the veteran whenever he presents a class of cattle as worthy. This applies, too, quite as forcibly to the show contests as to the sales. The basis of prices seems to be in the actual merit of the offerings regardless of ownership, just as the claim of the animal to the coveted prize is not influenced by the man who has paid its entrance fee. If there are exceptions they are so rare as to only serve to prove the rule. An open field for all with no special advantages to the few is the plan which the Shorthorn people are encouraging and upon this foundation the greatest expansion will develop.

In the earlier days the beginner and the man with the small herd did experience to an extent a disadvantage when it came to marketing the limited surplus because there were then no association sales to which he was encouraged to contribute nor was there an organized movement among the breeders generally to create and foster trade. But those days so far as the Shorthorn situation is concerned have passed and in working out this new and useful system a broad service is being rendered to the whole improved live stock industry.

There need be no hesitancy on the ground that trade opportunities will be lacking when it comes to investing in registered cattle. The purpose of the



Marking the Litters

THE breeder of pure-bred hogs who does not litter-mark his pigs lays himself open to suspicion in the matter of furnishing the correct pedigrees of the animals he sells. Even though only a few litters are farrowed, it is never safe to trust to memory. The memory is too treacherous when it comes to positively identifying pigs of different litters later in the season. Growers of market hogs will find it well worth while to adopt a system of marking the pigs. Only by knowing something about the breeding of the gilts can intelligent selections be made of the ones to save for brood sows. The gilts from sows farrowing only four or five pigs are almost sure to look better in the fall than the gilts from the sows with large litters. The cut shows two systems of marking pigs for identification. Both have been successfully used by growers of market hogs and by dealers in pure-bred hogs. The best time to mark the pigs is when they are only a few days old and before there has been any chance of litters getting mixed. They must of course be marked before they are weaned.



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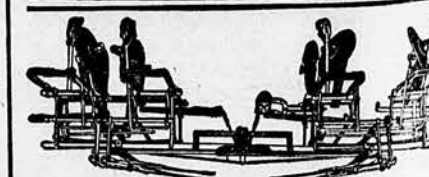
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The cross roads oracle says: A good garden, a splendid cow, some busy hens and a woman's deft fingers, make the table a delight.

various breed associations is to provide as far as possible channels through which the small breeder and the beginner may share equally in the trade advantages with the man who has been longer established and operates on a larger basis.

What's Pure-Bred Bull Worth

"Say, if your neighbor tells you he can't pay \$300 for a pure-bred Aberdeen-Angus bull, show him the Chicago, St. Louis, Omaha, Sioux City, Seattle or any other market figures for beef steers that these bulls get for the feed lots," says Charles Gray, secretary of the American Aberdeen-Angus Association. "The other day a load of grade Aberdeen-Angus steers sold on the Chicago market for an even \$20 a hundred pounds, and weighing as they did 1,360 pounds, they brought their owner \$272 each. Ask Emil Kirks of Bryant, Iowa. "On December 2 last, another load of yearlings sold on the Chicago market for \$20 a hundred pounds—yearlings, mind you—bringing their owner over \$250 each. A load from Mississippi brought over \$260 at the East St. Louis market last July. Other loads from Alabama, Tennessee, Illinois, Indiana, Nebraska, South Dakota, Missouri and other states have brought well over the \$200-a-head mark for months and months. Why, a man can go to one of the bull sales, buy a bull and use him all summer, castrate him, and by the following January put him on the market for more than he cost.

"Talk about what a pure-bred bull is worth! Down south, where the tick has held back live stock for a half century, they still have the native Spanish stock that Columbus brought over, only some of it has probably slipped back a few degrees. They call these natives 'piney woods cattle,' or just 'critters.' Francis Coleman of Alabama, who had formerly been in the horse business in Illinois, estimates a pure-bred bull is worth more than a \$2,000 Percheron stallion, and he uses figures to prove it! One of these bulls will add more than \$100 to each calf from these native cows over what their steer calf products would bring from the scrub bulls when the two get to market. At that rate, the siring of twenty calves worth the extra hundred dollars each over the scrub steers from both scrub bulls and scrub mothers makes the \$2,000 each season. The difference between northern native cattle and these poorest southern specimens is wide, of course, but the principle holds good. The pure-bred adds beef, quality and early maturity. For grading up, the first generation gives the half-bloods, the next the three-quarter; then the seven-eighths, and fifteen-sixteenths, the thirty-one-thirty-seconds, and by that time the calf crop is getting so near pure-breds that you can begin replacing them with the kind with pedigrees without having to spend a fortune to get started.

Dangerous Horse Situation

The growing of horses, like many other types of live stock production, has its ups and downs. These might be compared to the tides of the ocean. There are times of flood tide followed by the ebb flow. Just now the tide in horse production is setting strongly in one direction—that of getting out of the business. Because horse prices did not keep pace with the increases in prices of wheat, corn, pork, beef and mutton, many farmers have quit the horse business. Their mares have been for sale to the horse buyer. In many cases even though the mares were held, breeding has been neglected. The ebb flow in the horse business is just upon us, and it takes a very strongly anchored person to stand against the flow of tide. It is also a rather thankless job as a rule to advise against following any popular well nigh universal practice or habit, but there is always a tomorrow to be considered.

To illustrate present tendencies in the draft horse business, Chester G. Starr, agricultural agent of Tazewell County, Illinois, gives a short review of what has happened in that county during the past two years. Tazewell County claims the distinction of having more pure-bred Percheron horses to the square mile than any other county in America. Old Louis Napoleon made history for the county in early days, and its draft horse interests have always been large. To obtain an accurate opinion as to the decrease in breeding in Tazewell County, the Tazewell County Percheron

Association a short time ago canvassed the men owning stallions for the years 1915, 1916, 1917 and 1918. Direct questions were asked of each stallion owner as to the number of mares bred per stallion during these years. Enough replies were obtained to furnish reliable estimates. In 1915 there were recorded 155 stallions for public service. The average number of mares bred per stallion was sixty-five. Counting a 50 per cent colt crop, there should have been 5,036 colts of the 1916 crop. In 1916 the number of registered stallions decreased to 140 and the average number of mares per horse also decreased to fifty-five. This would be 3,850 colts for 1917. In 1917 the stallions again dropped to 115 and mares per stallion to 45. According to this only 2,616 colts could be expected in 1918. Last year, 1918, the stallions only numbered eighty-eight and the owners reported an average of forty-one mares per stallion. This year we can expect about 1,800 colts. From 1915 to 1918 the stallions decreased from 5,036 to 1,800, or almost

180 per cent. Here is food for thought. If one of the big draft horse counties cuts down its horse production in this manner, what is going to happen to the supply of horses for market three and four years from now?

A like decrease can be seen in the number of stallions registered in the entire state of Illinois. In 1912 there were 9,677 pure-bred and grade stallions licensed to stand at public service. In 1918 there were 7,120, or a decrease of 36 per cent.

The result is already becoming apparent in Tazewell County. The other day the secretary of the County Percheron Association was trying to find some real geldings to price to a buyer. In the course of his search a considerable number of men were consulted. No one knew of any big sound geldings of market age. A buyer of express horses told the secretary, a short time ago, that he was finding it very hard to find any horses suitable for his trade. Last August, in response to an inquiry for grade mares to over 500 men in Taze-

well County, only twenty-nine mares for sale were located.

In the light of these figures and from recent history it begins to appear that there will be practically no horses soon. When that happens, what will we do for work stock? And we will need work horses three, five, ten years from now.

The Department of Agriculture estimate on the number of brood sows in Kansas this spring is approximately the same as last spring. It is generally considered that the hog outlook is bright, and the reports are that a good crop of pigs is now being farrowed. Feed is of course still very high, but the possibilities of a corn crop are all that could be expected at this time, as there is an abundance of moisture in all sections.

Before you junk any piece of farm machinery, look it over carefully to see if some of the parts are not worth keeping for repairs. Bolts and braces, at least, are almost sure to come in handy.

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- they are daily proving their mechanical excellence in the hands of thousands of enthusiastic owners everywhere.
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- These are but a few of the many very good reasons for Studebaker value—why Studebaker can and does produce cars of sterling high quality at low prices. If real economy is your consideration—if you want to get the most for your money—investigate the New Studebaker Cars before you buy. And if you purchase your motor car on the same basis as you do your blooded stock or a piece of farm machinery—as an investment—then Studebaker should be your first choice.

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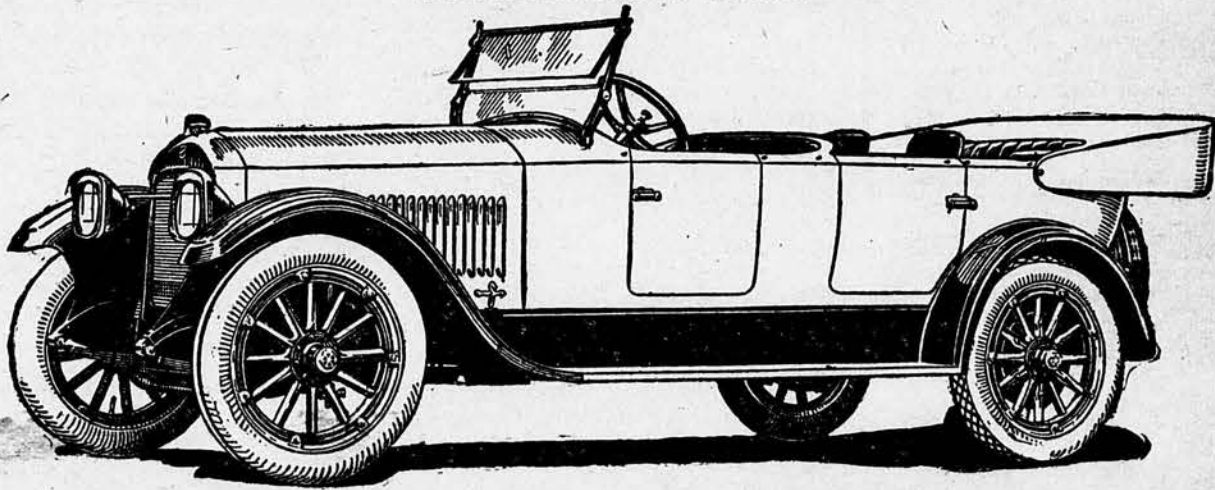
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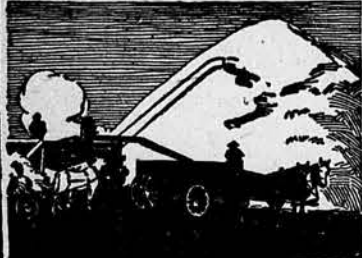
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The Nichols-Shepard "Junior" Red River Special is the ideal thresher for the farmer who wants to do his own threshing. It is a small machine but does big work.

It beats out the grain just like the big Red River Special. It has the "Man Behind the Gun," the Beating Shakers, and a perfect cleaning mill.

Two sizes: 22 x 36 and 28 x 40. The smaller, without extra attachments, is easily operated by any farm power that can deliver 12 H. P. at the cylinder.

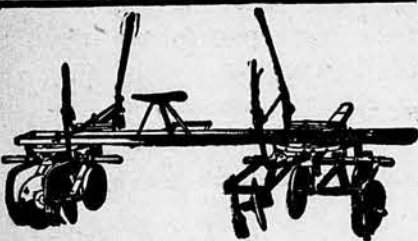
"JUNIOR" Red River Special

Sold fully equipped with Self Feeder and Wind Stack, or with Hand Feed Parts and Common Stack, as desired. Just right for individual farmers and for custom threshing where jobs are small and the country is rough and hilly.

James Amott of Bradwardine, Manitoba, says, October 23, 1918: "The 22x36 Junior Red River Special purchased this year is a strong, durable machine. We had no breakages, and lost no time. We had no trouble from start to finish. It threshed the grain out of the straw thoroughly, and did a first-class job of cleaning."

Do not judge the "Junior" Red River Special with other so-called small threshers. It is not a plaything. It is built to earn money threshing and will save the farmer's thresh bill like the Big Red River Special.

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In Continuous Business Since 1848
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Threshers, Wind Stacks, Feeders,
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Single Buster Cultivator.....\$26.00
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Standard 500 ft. guaranteed twine, as good as any sold, 10¢ per lb.; May orders, 20¢.

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Our book, "CARE OF BABY CHICKS," and a package of GERMONE are the best insurance against chick losses. Those formerly losing more than half their hatched now raise better than 90 per cent. To you who have never tried GERMONE, we will send postpaid, book and package as above. You pay, if satisfied, 75¢; 60 days' trial. We trust you.

Druggists and seed dealers sell GERMONE, the best poultry remedy and preventive. For old and young—bowel trouble, colds, roup, musty or spoiled food, hump neck, chicken pox, sour crop, skin disease, etc. Sick chicks can't wait. Do it now.

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Lower Tire Prices

The cost of tires, tubes, etc., is reduced about 25 per cent by co-operative buying. First quality, guaranteed tires are obtained at prices even lower than often charged for "seconds." This co-operative service, with prices, etc., can be secured by sending the membership fee of \$1.00 to L. Powell, Manager, Box 96, Racine, Wis., or full particulars will be sent on request.

The saving on a single purchase may equal ten times the cost of membership, and even the \$1.00 is merely held in trust as a guarantee of good faith, to be returned on demand. In sending your application to the above address give make of car.—(Adv.)

HELPFUL POULTRY HINTS

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

Moisture for the Incubator

MANY are puzzled over the matter of supplying moisture in artificial incubation. The question can best be answered by knowing why we provide it, says Victor G. Aubry of the New Jersey Experiment Station. The purpose is often misunderstood. Many believe that when spraying the eggs or supplying the moisture trays in the incubator they add so much water to the egg. This conception is wrong, as it is impossible to put moisture back in the egg except under pressure. But on the other hand the moisture can be drawn or evaporated from the egg very easily. The reason we supply moisture to our incubators and incubator rooms is that the air may not be too dry and so prevent it from drawing too much moisture from the egg.

Two conditions which induce rapid evaporation are heat and circulation of air. We know that objects dry much more readily and much more thoroughly in a warm room than in a cold one, and we also know that they dry faster in the wind. The air in an incubator is both heated and circulates, and its power of moisture absorption is therefore increased. In natural incubation the eggs under a setting hen are not subject to these conditions. The hen covers the eggs pretty closely and the only time they are exposed to the air is when she leaves the nest for food and water.

The only way we have of counteracting the moisture-absorbing power of the air in incubators is to provide a large amount of moisture so that it will be satisfied without absorbing moisture from the eggs. The ideal way to do this is to supply all the moisture to the air before it goes into the incubator. Often this cannot be done because of the nature of the cellar or room in which the incubator is operated, but as much moisture should be supplied in this way as possible. If only a small amount can be supplied, more should be provided inside the incubator by the use of sand trays or moisture trays or by saturating felt or burlap frames which fit into the machine, or by spraying or wetting the inside of the machine. Water should not be sprinkled on the eggs themselves, because when this water is evaporated additional moisture from the egg will be drawn with it.

The glass on the door of the incubator is usually a very good guide as to the amount of moisture needed. Just as long as the glass is dry one has not used too much moisture. When there is an excessive amount of moisture it will condense and gather in a fine mist on the door. This should be noted only after doors have been closed for at least half an hour.

Very seldom and only under the most exceptional conditions do we find the air in the incubator saturated with moisture, and only when the air is saturated is there too much moisture in it. It is safe to say that one should supply all the moisture possible, as the ideal moisture condition is just below the saturation point.

Nature has provided the correct amount of moisture in the egg for incubation. It is up to us to conserve this moisture as much as possible as well before the eggs are in the machine as after incubation starts. The eggs, therefore, should be kept in a cool, moist place until put under the hen or into the incubator. Then plenty of moisture should be provided from the very start of the incubation period until the end. Steaming warm water is most effective for this.

When one supplies a large amount of moisture in this way it will often vary the temperature considerably, and one should be careful that the temperature is regulated carefully. Otherwise poor hatches will result. In fact, poor hatches have been realized in many cases where moisture was supplied, because of varying temperatures. In these cases the fault has invariably been laid to excessive moisture. The appearance of moisture on the door of the incubator just at hatching time is not harmful, but

invariably indicates a good hatch, as it is caused by many chicks hatching and drying off, supplying at that time an excessive amount of moisture.

Poultry Yields \$1.14 an Hour

A side line for the farmer's wife which yields \$1.14 for every hour she puts into it is worth the consideration of every farm woman. A Wabash County, Ind., woman has demonstrated that this amount can be made by keeping chickens. Last year the local county agent interested this woman in keeping a farm poultry flock, and as a result she produced a net profit of \$172.24. She kept an accurate account of her work and found at the end of the season that she had received \$1.14 an hour for the time she actually devoted to caring for her flock.

Gapes Caused by Worm

W. R. G., Clay County, asks the cause of gapes and for methods of treating chickens so affected.

The cause of gapes in chickens is a small parasitic worm in the windpipe of young fowls. The larvae of the parasites are usually introduced in the drinking water, though sometimes healthy chickens get them by eating the worms that are coughed up by those afflicted with the disease. Chickens can also get gapes by running on low, damp places.

There are several well known preventives and remedies for this disease. Put a little salicylic acid in the drinking water and it will prevent gapes. They may be eliminated by mixing garlic and onions freely in the poultry food or by using powdered asafoetida and powdered gentian with it.

Another remedy is to give the chick a piece of camphor the size of a pea. The fumes will kill the worms. Camphor in the drinking water is a preventive of the disease.

Another good remedy is spirits of turpentine, dose five to ten drops. Change the location of the chickens to high, dry ground, and put camphor in the water, and it will save the rest of the flock.

A little girl in Osage County, Va., borrowed money from her father to buy nine settings of eggs, so she might belong to a poultry club organized by the United States Department of Agriculture and the State Agricultural College. One setting would have entitled her to a membership, but she is no believer in halfway measures. On this venture her first year's work netted a profit of \$98, and she has three roosters left.

As the chicks get larger they should be provided with larger coops, otherwise their bodies are liable to be deformed from crowding one another too much. Get them in the habit of roosting in their permanent poultry house as soon as they are large enough.

They know!

Over there they've learned the value of Fish Brand Slickers, while we at home have had to do without.



Tower's Fish Brand Slickers

are now back on the job, ready for the boys as they come back, ready for everyone who knows the value of this real Service Coat when there's wet-weather work to be done.

A. J. TOWER CO.
BOSTON, MASS. 

Real Estate For Sale

SACRIFICING well-improved 700-acre farm, 2 miles out, ideal home, 260 wheat half with sale, possession now, some for spring crop, fenced, cross fenced, every acre tillable, best buy in county, carry \$10,000. Be quick, see or wire **R. C. BUXTON** Utica, Ness County, Kansas

FOR SALE AT A BARGAIN

1,280 Acres of Seward Co. Land, well improved, 300 acres of good wheat, one-third delivered. Will sell on good terms. Price, \$27.50 per acre.

875 Acres Ford Co. Land, well improved, 200 acres of good bottom land, 40 acres of good alfalfa, 300 acres good wheat, one-third delivered. Price, \$45.00 per acre, on good terms.

320 Acres Ford Co., well improved, 200 acres good wheat, one-third delivered; only three miles from Bucklin. Price, \$17,000, on good terms.

320 Acres, five miles from Bucklin, fine modern house of nine rooms and all other good buildings, 100 acres rough pasture land, balance good. Price, \$52.50 per acre, on good terms.

480 Acres Ford Co., four miles from Kingsdown, seven miles from Bucklin; 250 acres good wheat, one-third delivered. Two sets fair improvements. Price, \$52.50 per acre.

Have several more good quarters and half sections in this same neighborhood at about the same price. Address

Mirt Newhouse, Pratt, Kansas

EIGHTY ACRES
Near Emporia; alfalfa land, well improved, good orchard, possession at once. \$116 per acre. Write for list of farms.
T. B. GODSEY - EMPORIA, KANSAS

Prevent Chick Bowel Trouble Raise All You Hatch

How to avoid loss, how to successfully raise baby chicks and just what to feed them, together with a host of valuable information to poultry raisers, contained in new 16-page bulletin by Prof. T. E. Quisenberry, Box 3710, Leavenworth, Kansas, said to be America's greatest poultry authority. This bulletin mailed free if you write before all are gone.—(Adv.)

In considering the breed of chickens best suited for the home flock, pay little or no attention to those which are not of local importance; that is, not being raised successfully in the community, except on the advice of experts.

Let the poultry have a share of the sour milk.

ROSS Ensilage Cutters and Silo Fillers

Fill your silo with Ross cut silage. It is cut clean, not macerated. Every particle contains its own juices. Ross cut silage is uniform from top to bottom of silo, not soggy at the bottom and dried out on top.

There's a type and size of Ross for any engine—4 H. P. and up, cylinder or fly-wheel construction. Each one cuts corn clean. Ross Silo Fillers run with 300 R. P. M. less speed—require one-fourth less power—and are absolutely safe and sure.

Extra heavy knives, low speed six-fan blower, self conforming bearings, ball bearing end thrust adjustment and reversible cutting bar. The Ross

Keep a crew on the jump to feed them. Won't break down. Never choke, no matter how fast the corn is fed. Thousands of happy owners testify to their year 'round, honest dependability.

runs with a smooth, steady hum, fills your silo in a steady stream, every machine backed by sixty-nine years' experience and an ironclad guarantee.

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THE E. W. ROSS CO.
150 Warder St., Springfield, Ohio

Prospects for a Record Crop

WINTER fall's planting of wheat in Kansas broke all records, and the state's immense acreage of wheat came near getting through the winter with a record-smashing condition on April 1. This is shown in the April report issued by Edward C. Paxton, Kansas field agent for the Bureau of Crop Estimates of the U. S. Department of Agriculture.

Only one April in the last twenty years has seen wheat off to an apparently better start; that was in 1901 when a condition of 105 per cent was recorded as compared with 101 this spring. The condition April 1, 1914, that ushered in the greatest wheat crop Kansas has hitherto produced, was 98 per cent. In 1901 starting with an April condition of 105 Kansas produced an average of 18.5 bushels on 5,356,000 acres, or 99,081,000 bushels. In 1914, 600,000 acres produced an average of 0.5 bushels and a total of 176,000,000 bushels. Although no state forecast is made this early in the season, past experience would indicate that with anything like an even break from now till harvest, Kansas ought this year, on her 1,184,000 acres, to produce more than 100,000,000 bushels of winter wheat. No Kansas wheat crop with anything like a similar spring prospect has ever suffered slump that produced even a near failure. The average condition of Kansas wheat on April 1 for the last ten years has been 77.7 per cent. The present condition of 101 per cent is in violent contrast with the condition of 67 per cent one year ago today and 45 per cent two years ago.

The spring of 1917 saw 55 per cent of the wheat acreage sown. The preceding autumn abandoned to the weeds. In May, 1918, saw 27 per cent of the Kansas wheat a total loss. Although estimates of abandonment are not made until May 1, present outlook is that the acreage abandoned this spring will be exceptionally low. Some counties of the West and Southwest may suffer a loss as high as 3 per cent of the acreage sown, due to blowing of the sandy soils, because some fields of early seeding were destroyed by hoppers, were not needed.

The losses from damage by white wheat grub in Sedgwick County have been greatly exaggerated in recent newspaper reports. Although the loss in some fields may be even higher than 25 per cent, the total loss in the county will not exceed 1 per cent of the acreage sown and the actual abandonment of other crops may be less, due to the dotted nature of the damage and the smallness of the areas affected. Actual winter killing in the state is exceptionally rare though some is noted on the lands in Labette County.

There is scattered infestation of Hessian fly in the eastern half of the state. The greatest damage from this pest is probably in Miami County. It will take another month or six weeks of growing

weather to determine whether the fly is here in sufficient numbers to prove a serious menace to the present crop.

Only two districts out of the nine crop districts into which Kansas is divided show an average wheat condition below normal; namely, the West, rated at 99 per cent, and the Southwest at 94 per cent. The lowest county condition averages are in Hodgeman, 85; Lane and Scott, 86; Ness, 87; Gray, 88; all lying in a group in the West and Southwest. The highest county condition averages are in Franklin County with 112 per cent, and Chase County with 111 per cent. Douglas and Allen are rated at 110 per cent; Decatur, Rice, Reno and Linn at 109 per cent; Rawlins, Ottawa, Osborne, Leavenworth, Logan, Marion, Lyon, Morris, Barber, Cherokee, Elk and Greenwood at from 105 to 108 per cent.

The average condition of winter wheat in the United States on April 1 is estimated at 99.8 per cent of normal and a production of 867,000,000 bushels is forecasted on that basis. With the normal break in weather conditions from now till harvest, Kansas is slated to produce nearly one-fourth of that amount. At a guaranteed price of \$2.26 per bushel at Chicago market, such a crop would bring in almost as much cash as is now on deposit in Kansas banks.

Holstein Association Sales

In a letter to members of the Holstein Breeders' Association of Kansas, J. Mott, the association sales manager, points out that the recent Topeka sale demonstrates the necessity of a better association sale. Many of the buyers waited until the second day, expecting to buy stock for less money, but as is usual in such cases they were disappointed. The total of the breeders' offering sold at Topeka amounted to \$25,860, making the average \$344. In view of the fact that very few of the cattle sold with production records, the consignors must admit that the prices realized were satisfactory.

Mr. Mott states that a two days' sale with about 110 cattle can be held with practically the same expense as the one-day sale and the rate of expense per animal be substantially lowered. He comments on the growth of the association under the able administration of Ben Schneider, who has been president for the past two years, and A. S. Neale, the secretary, who has been re-elected for another year. The sales organization, which is only a year old, has been the means of distributing nearly 250 pure-bred Holstein cattle over Kansas and the Southwest, most of them going to new breeders just starting with pure-breds.

Hogs are born that way and can't help it. That is why hogs get all the worst of it when you call some men hogs.

State Pig Club Boy Makes \$600 Profit

THE following story told by Harold Delfelder, of Atchison County, a former member of the State Pig Club, shows the opportunities open to Kansas farm boys and girls to make some money and learn much about the hog business.

This is only one of the many good records that have been and are being made by State Pig Club members.

"Four years ago I entered the State Pig Club with one pure-bred Poland China sow. She raised eight pigs, which I sold on the market at an average weight of 350 pounds apiece. This looked like a very good way to make money, so I bought another sow. From that time on my herd has increased until there are five sows, fourteen fall pigs, and thus far fifteen spring pigs, with three sows yet to farrow.

"The sows are valued at from \$75 to \$165 each, the fall pigs at about \$25 each now, but they will soon increase in weight and value.

"Last year from three sows I cleared close to \$600 after the feed and other expenses were taken out. But along with this there was some hard luck. One big sow that cost \$175 was not a good brood sow and she had to go to market. Last summer three pigs that weighed about 200 pounds each, died with the heat.

"I have won several prizes in the State Pig Club contest, some at the county fair, and some at the state fair.

"As all of these are pure-bred hogs, I sell many of them to breeders and thus realize much more for them than if they were sold on the market."

Harold had his ups and downs, but he did not become discouraged. He considered his club work as a business proposition. When his pigs died he did not become pessimistic, but stayed in the game and tried harder than before to feed and manage his pigs profitably. He has proven himself a winner in the long run, and his experience should be an example to other boys and girls who wish to become members of the State Pig Club.



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Tobacco Co.

TALK about smokes, Prince Albert is geared to a joyhand-out standard that just lavishes smokehappiness on every man game enough to make a bee line for a tidy red tin and a jimmy pipe—old or new!

Get it straight that what you've hankered for in pipe smokes you'll find aplenty in Prince Albert. It never yet fell short for any other man, and, it'll hand you such smokesatisfaction you'll

think it's your birthday every time you fire up! *That's because P. A. has the quality!*

You can't any more make Prince Albert bite your tongue or parch your throat than you can make a horse drink when he's off the water! Bite and parch are cut out by our exclusive patented process!

You just lay back like a regular fellow and puff to beat the cards and wonder why in samhill you didn't nail a section in the P. A. smokepasture longer than you care to remember back!

Buy Prince Albert everywhere tobacco is sold. Tippy red bags, tidy red tins, handsome pound and half pound tin humidors—and—that clever, practical pound crystal glass humidor with sponge moistener top that keeps the tobacco in such perfect condition.

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

THE PULL of the MONARCH

Makes it the
Leader in Every
Kind of a Job



The track laying tread of the Monarch takes it everywhere—through sand, mud, gravel, on hills, over ditches, and keeps it working all the time—is a money maker for you, Mr. Farmer. Never stalls and has no power wasted pushing front wheels. You need not use your fence posts to pry out of soft soil.

MORE POWER

In proportion to the size of the engine, the Monarch has MORE POWER on draw bar. Works everywhere—at everything needing power—all the year round. Saves fuel (kerosene) by saving on power.

THREE SIZES

Lightfoot—12 H.P. on the pulley, 7 H.P. on the drawbar—pulls 2 plows even in breaking. 50 inches wide, 50 inches high. Never Slip—20 H.P., 12 H.P. and 30 H.P.—18 H.P. pull 3 and 4 plows. Track laying tread gives traction in any kind of ground. Write for booklet and dealer's name.

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108 First Street
DEALERS WRITE TO HATHWAY MOTORS CO., KANSAS CITY, FOR TERRITORY

The milk industry furnishing milk to New York City has been studied to such an extent that its chief features are already familiar to the majority of persons who would attend such a conference as the Milk and Dairy Farm Exposition to be held there this month. The 40,000 dairy farms furnishing milk to New York City are valued at an average of \$10,000 each, making a net investment of \$400,000,000 on the part of producers. The distributors in New

York City have about \$25,000,000 invested in the machinery and equipment and buildings necessary for milk handling and distribution. New York City pays to the producers each year about \$100,000,000 and to the distributors \$100,000,000, making the total bill for milk and dairy products for the city about \$200,000,000. The present milk supply of the city is 1,700,000 quarts, which is 300,000 quarts less than normal, or about 15 per cent.

Classified Advertising

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

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

AGENTS WANTED

WANTED — REPRESENTATIVE FOR manufacturer. Address E. F. Bornemann Corp., Paterson, N. J.

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

AGENTS—MAKE A DOLLAR AN HOUR. Sell Mendota, a patent patch for instantly mending leaks in all utensils. Sample package free. Collette Manufacturing Co., Dept. 108, Amsterdam, N. Y.

LIVE AGENTS WANTED IN UNOCCUPIED territory for Western Kerosene Carburetors for Ford cars. An all-year-round seller. Biggest corporations equipping exclusively. Thousands in use. 35 per cent fuel saving, money-back guarantee. Big profits. Write for agency today. Western Carburetor Company, Alma, Michigan.

SEEDS

WHITE BLOSSOM UNHULLED SWEET clover seed. E. S. Fox, Larned, Kansas.

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

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

SUDAN GRASS SEED, \$14 A HUNDRED, my station. Clifford Swank, Route 3, Sedgewick, Kansas.

CHOICE BLACK AMBER CANE SEED, \$2.75 per hundred. Gus Herfert, Julesburg, Colorado.

FOR SALE—KAW VALLEY WHITE Seed Corn. Large, medium, late maturing. Test 98%. \$2.80 per bushel. Ear corn only. C. V. Cochran, Route 6, Topeka, Kansas.

FOR SALE—NANCY HALL, BRADLEY Yam sweet potato plants, tomato plants, 100, 50c; 1,000, \$3.75. Delivered. S. & H. Plant & Truck Farm, North End, Oklahoma.

WATERMELONS — PURE HALBERT Honey, direct from originator, \$1 lb.; Rubber kind, \$1; Tom Watson, 75c. H. A. Halbert, Corsicana, Texas.

CABBAGE PLANTS—EARLY JERSEYS and Flat Dutch. Parcels post, 500 for \$1.50; 1,000, \$2.25. Express, \$1.75 thousand. Coleman Plant Co., Tifton, Georgia.

SWEET POTATO AND TOMATO PLANTS—Standard varieties, 100, 55c; 1,000, \$4.00; 10,000, \$35.00. I pay express and postage. Plants ready April 20. C. W. Sheffer, Box 23, Okmulgee, Okla.

BLACK HULLED WHITE DWARF kafir and yellow dwarf maize seed, grown especially for seed of big yielding types, \$5 per hundred pounds, graded and sacked f.o.b. Elk City, Okla. Chas. C. Miller.

NANCY HALL, YELLOW YAM, SOUTH- ern Queen, Early Triumph, Pink Yam potato plants, \$3 thousand delivered. Pepper and egg plants, 15c dozen; \$1 hundred. Get catalog. Adams & Son, Fayetteville, Ark.

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.

FROST PROOF LARGE WELL ROOTED cabbage and collard plants now ready, early and late, leading varieties. Acme, Stone, McGee tomato plants ready May 1; 200, \$1; 500, \$2; 1,000, \$3, delivered parcels post. Free recipe guaranteed to keep potato vines green all winter to each customer. Am no agent. Grow what I advertise. J. L. Garretson, Box 75, Winfield, Texas.

CABBAGE PLANTS, MILLIONS NOW ready. Varieties, Flat Dutch, Early Jersey and Charleston Wakefield, 100, 40c; 500, \$1.25; 1,000, \$2, postpaid. Ponderosa, Acme and Earliana tomato plants ready, same price of cabbage. Place your order with me now for good plants. Full count and prompt shipment or money refunded. J. H. Lancaster, Longview, Texas.

DWARF AND STANDARD BROOM corn seed. Red Top and Early Golden cane, faterita, Schrock and pink kafir, darso and common millet, \$6; orange, sourless, black and red amber cane, cream and red dwarf and standard maize, and dwarf kafir, \$5.50. Sudan seed, \$15; alfalfa seed, \$17. All per 100 pounds, freight prepaid. For prepaid express, \$1 more. Claycomb Seed Store, Guyton, Okla.

SWEET POTATO PLANTS—BEDS GOV- ernment inspected and all plants shipped from disease-free beds. Porto Rico, Nancy Hall, and Middle Buster. Tomatoes: Earliana, Paragon, Stone, and Globe. Prices by mail prepaid, 100 for 50c; 250 for \$1; 500 for \$1.75; 1,000 for \$3. By express, 1,000 for \$2.25; 5,000 to 10,000 at \$2 per thousand. Over 10,000 at \$1.75 per thousand. Shipments prompt after April 15. Bruce Wholesale Plant Co., Valdosta, Ga.

MINNESOTA FARM LANDS

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

FARMS WANTED.

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

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

CATTLE.

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

REGISTERED GUERNSEYS FOR SALE, both sexes, all ages. Write for description and prices. W. E. Evans, Jewell, Kansas.

QUALITY HOLSTEIN HEIFER CALVES four to six weeks old by pure-bred sire, \$25, express paid to any station. Write for prices on older stock. Spreading Oak Farm, Whitewater, Wis.

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

HOLSTEIN BULLS AND HEIFER calves, thoroughbred, registered, foundation stock. "Bred in silk." Finest lot we ever raised. Milk fed from the start. Health guaranteed. Best blood of the breed. Beware of cheap Holsteins. Ask for salesmen. States your wants. Pres. Johnson, Kimberlin Heights, Tenn.

DOGS.

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

REAL ESTATE.

640-ACRE HOMESTEADS. DUFF, CAS- per, Wyoming.

LISTEN — EIGHTY ACRES, VALLEY farm, \$2,500; imp. 60 acres, \$1,250. McGrath, Mountain View, Mo.

FOR SALE—320-ACRE FARM OR 180, \$35 an acre. Write for description. Joe Fox, Greeley, Anderson Co., Kansas.

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

WANTED

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

MISCELLANEOUS.

EVERY THRESHING OUTFIT FOR sale, cheap. Herbert Lessmann, Wayne, Nebraska.

HONEY.

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.

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

THE STRAY LIST.

TAKEN UP—ON THE 8TH DAY OF NO- vember, 1918, by Emil Rosander, of Smoky Hill Township, McPherson County, Kansas, one white faced steer, long yearling, no marks or brands. Also one red yearling steer, both ears trimmed and small slit in right ear. Appraised at \$75. A. J. Cedarholm, County Clerk, McPherson, Kansas.

A Well-Bread Reply

In reply to a complaint from a husky soldier anxious to get into the scrap, but who had been assigned to the bakery department, the captain said: "You wanted to be a doughboy; your assignment shows that we were looking for some thorough-bread; it's an honor, the secretary of war is a Baker. Now cease being so crusty, get these fancy-bread notions out of your head, and your path will be strewn with flour."—Cartoons Magazine.

It is a curious thing, but you may see a pear or peach or apple tree plumb wrong.

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.

Pictures in the Home

HOUSECLEANING time is at hand again, bringing with it not only the cleaning proper but also problems of interior decoration which arise from changes to be made in the arrangement of furniture and the decoration of rooms. Now is a good time to discard any useless articles which merely clutter up the room and collect dust. In deciding on the pictures to be used, only good ones—and not too many of those—should be retained.

Most of us cannot afford expensive paintings, but a few really artistic copies of the best paintings are within the reach of all. A beautiful landscape, a bit of mountain scenery in natural coloring, a woodland scene, or a winding stream with grassy banks or overhanging trees is always refreshing. In summer one of our beautiful snow scenes or a cool shady nook or a dashing mountain stream suggests coolness and comfort and brings a little of the restfulness of a vacation trip. Pictures that show suspended action are likely to produce a tired feeling. The character-building value of pictures should not be overlooked. If the human element enters in, care should be taken that the emotion suggested is one that it is desirable to cultivate. Only the beautiful in nature or in human life should be portrayed.

The size of the picture should be in keeping with the size of the room in which it is to be used and the space it is to fill. Gaudy colorings should be avoided, and the frame should be unobtrusive and suited to the picture both in width and color. It should of course never distract attention from the picture to itself.

The attractiveness of a picture depends a great deal on the way in which it is hung. Large pictures should be hung with two wires and two hooks, says Nellie M. Killgore of the Colorado College, while small sizes need a single wire run from the center of the picture to a hook at the molding or may be fastened with push tacks. The following suggestions are also Miss Killgore's: Let the picture rest flat against the wall by attaching wire near the top of the frame instead of one-third the way down.

Hang about on eye level, usually with lower edges on a line with the eyes.

Don't hang too many. One medium-sized picture to a wall space is enough.

Large pictures in heavy frames should not be hung in the house of ordinary size.

Don't hang on figured wall paper; it detracts from effect of picture.

Hang similar pictures together. For example, a water color doesn't look well next to a photographic print.

Dark pictures are better hung in the darker parts of a room, and vice versa.

Dandelions as Food

While it is commonly known that spinach contains a relatively large proportion of iron, it is not so generally recognized that dandelions are also of value in this respect, says a bulletin issued by the New York College of Agriculture. It is the custom of many persons to take an iron tonic in the spring when both physical and mental vitality is low. In cases where this is needed, the iron in fruits and vegetables is used to much better advantage than is medicinal iron. Like other green vegetables, dandelions also have a mild laxative tendency.

The flavor of the crown from which the leaves radiate is exceedingly good, somewhat resembling asparagus. Even when the leaves are old, the crown is good. Dandelion greens should always be cut, not pulled, in order that this crown may be obtained. The imperfect outside leaves should be discarded because they are generally tougher than the others.

The leaves should be washed in several waters. It is usually best to blanch them on account of their bitter flavor.

An easy way of doing this is to tie them in a large piece of cheesecloth, plunge them into boiling water and let them boil for five minutes. Remove, plunge into cold water and drain immediately. The leaves should then be cut or chopped, placed in a kettle covered with boiling water and allowed to cook until they are tender, from fifteen to twenty minutes.

Very good salads may be made from the cooked greens by chopping them and combining with thinly sliced radishes and sweet red peppers, chopped sweet pickles and the juice and grated rind of a lemon. The fresh leaves minced are an addition to a cottage cheese salad.

An egg and dandelion salad is made as follows: Cut hard boiled eggs in halves lengthwise and remove the yolks. Cut tender uncooked dandelion leaves into small pieces, add one small onion minced and the yolks of the eggs. Mix the ingredients well with boiled salad dressing and fill the whites of the eggs with the mixture. Serve the eggs around a mound of lettuce or dandelion leaves, or arrange them in a nest of the leaves. A boiled salad dressing containing quite a little vinegar is best with these dandelion salads.

Wilted dandelions are prepared by arranging the tender leaves and stems on a plate and adding very thin slices of onion. Slices of bacon, cut in small pieces, are broiled until crisp, and boiled salad dressing added. When the mixture is hot and smooth it is ready to pour over the dandelions and onion. This dish should be served immediately.

A filling for sandwiches is made by mincing the fresh leaves and stems very fine, and seasoning with onion juice, celery salt, and pepper. Add sufficient salad dressing to make the mixture of the right consistency, and spread between slices of buttered bread.

An Aid to Wiser Spending

Low standards of living in the home are often not so much the result of low income as of misspent income. Where no records are kept, much is wasted in buying. It is important that the wife be a wise and careful purchaser. Miss A. Grace Johnson, professor of house administration in the Oregon Agricultural College, is authority for the statement that women buy 48.8 per cent of all family supplies and have a voice in buying 23 per cent more; they buy 48 per cent of the drugs, 96 per cent of the dry goods, 87 per cent of the raw and market foods, and 48.5 per cent of the hardware and house furnishings.

The old system of regulating expenditures by giving the wife, as the principal purchasing agent for the home, an allowance which was expected to cover the family needs, was undoubtedly better than no system at all. Miss Johnson believes this is not the best solution, however. "It tends," she says, "either to niggardliness or wastefulness. If too small, supplies will be bought on credit, and if too large, it will generally be spent anyway for fear it may be reduced next month."

The system which seems to give the best results in the way of insuring a wise expenditure of family funds is a study of the requirements of the family with relation to the income which may reasonably be expected, and the careful planning of a budget for family supplies. The whole family should cooperate in making up and adhering to this budget plan. The family budget and carefully kept household accounts are first aids in promoting the health, education, pleasure and savings of the family.

"Y" Girls with 137th

The 137th has two "Y" girls now. Their popularity with the soldiers is just as might be expected for two charming young American women who stand in the hearts of the boys for the mother, wife, sister or sweetheart at

It was they who made sunflower for Kansas day; it was they who put up curtains, it was they who put up "home" into the crude arrangements the men had made in "Y" tents. They made hot chocolate and shunts with the assistance of every who had any excuse for being and. They start the music. They the parties in consultation with the committees of men who would up the mess kettle or burn down the if the girls wanted them to do so. They sew on buttons, chevrons and stripes, they read scores of letters over which they must enthuse, they enter smiles and greetings up and in the mess line and around the "Y" es, and they are the boast and the of the two battalions. You will plenty of criticism of Y men, who human and make mistakes and er- but you will hear no criticism of girls—it isn't safe.—W. Y. MORGAN Hutchinson News.

Sugar-Saving Desserts

Old weather desserts are apt to be substantial in character. Usually they are dishes requiring a large amount of sugar. The following recipes are suggested for after-the-war use. In these, sugar is replaced by a sugar-saver to the extent of 50 per cent.

Plain Cake:

- 1/2 cupful light syrup
- 1/2 cupful fat
- 2 eggs
- 1/2 cupful milk
- 1/2 teaspoonfuls baking powder
- 1 teaspoonful salt
- 2 cupfuls wheat flour
- 1/2 cupful corn flour or 1/4 cupful barley flour

Beat sugar, syrup and fat together until very light. Add unbeaten eggs and beat into syrup and fat mixture. Add dry ingredients which have been previously sifted together. Bake in moderate oven. This makes two large cakes or four layers.

Brownies:

- 1/4 cupful fat
- 1/4 cupful molasses
- 1/4 cupful syrup
- 1 egg
- 1/4 teaspoonful soda
- 1 1/4 cupfuls wheat flour
- 1/2 cupful barley flour or 1/4 cupful corn flour
- 1 square chocolate—melted
- 1/2 cupful nut meats—chopped
- 1/2 cupful cream fat; add molasses and syrup. Beat egg, flour into which soda has been sifted, chocolate and nut meats. Drop from spoon onto oiled pan and bake in a moderate oven.—TAYLOR, Home Demonstration Agent, Shawnee County.

Chilli

- 1/2 pound suet
 - 1 pound ground beef
 - 2 good sized onions
 - 2 cupfuls tomatoes
 - 3 cupfuls cooked chilli beans
 - 1 to 2 tablespoonfuls chilli powder
- Chop up suet and fry until brown, then in onions and fry again until these are brown, then put in ground beef, mix and fry until thoroughly done. Turn into kettle and add tomatoes, beans, chilli powder, boiling water and salt to the taste.—Mrs. B. NEEDHAM, Lane.

The Easter Message

It is the lesson of the spring, that all things change, that all things grow, that out of Death's most frozen woe come life and joy and blossoming.—Priscilla Leonard.

Most of us think of the "farm" as an ideal place, and no one can question the wholesomeness of much in farm life. We have learned that it is not wise to take it for granted that all country life in America makes a child happy and healthy. It must be admitted that much farm labor interferes shockingly with the child's schooling, overtaxes his strength, and impairs his future usefulness.—Children's Bureau, U. S. Department of Labor.

There's a reason other than vanity why a woman should be well dressed; it gives her self-confidence and ease of manner. To be well dressed does not necessarily mean expensively dressed.

Giving

That's all we're asked to give, gave his life, Jim. He'd have like to live. Betty—bless her shy young heart—had only a week before he left put on his ring. How long her life will be to her, how lonely nothing of him but remembering! Never flinched, nor he, my son; they were working still, and Jimmie in his grave. And now today we're asked again to save, give, give, give the country what we've toiled to earn. It's hard for all—and yet, safe, we calm, we fortunate, we living, wonder, dare we, dare we call this giving?—Mary Carolyn Davies.

With Paw and Maw

He was an M. P. in the Gare du Nord, Paris, six-foot-two and broad to match, says the Epworth Herald. The time was midnight, and he had stood there for hours, herding casual doughboys who didn't know where they belonged.

In between his curt remarks to the bewildered, he talked with a mere civilian:

"Where are you from?" (The universal question when Americans meet in the war zone.)

"Florida, sir; and I'll be mighty glad to get back."

"You really want to go home?"

"I don't want nothin' else at all. Nobody does, in this man's army. The war's done, and we want to go home."

"But you've seen something of the world; won't you be a bit discontented with the old humdrum life when you get back home?"

"Say, Mister, lemme tell you. My folks lives on a farm about four miles from town. Well, this is how I feel about that humdrum thing. When I get back on that there farm I ain't never

even goin' to town ag'in less'n paw and maw goes along!"

No other soldier put it quite so strongly, but every one of them whom that civilian met felt the same way about it.

An invalid who has to spend much time in bed will appreciate a number of small soft pillows or cushions to place at his back or between the knees or under aching limbs to rest tired muscles. Half of an old woolen blanket wrapped around the feet will usually keep them more comfortable than the temporary heat from a hot water bottle. If a hot water bottle is used, it should be provided with a woolen cover.

A small rubber door mat placed in front of the kitchen cabinet, the sink, or wherever it is necessary for the worker to stand, not only protects the linoleum but is soft and restful to the feet. A soft rag rug will serve the same purpose.

Gentle, persistent rubbing of the back, the arms, the forehead, the upper part of

the neck will often relieve pain or quiet restless nerves and induce sleep. A drink of milk will sometimes banish sleeplessness if placed where it can be reached without the effort of getting out of bed.

A little salt or borax added to ordinary gloss starch will keep it from sticking in ironing. Borax also gives an added gloss.

The farmer's wife who uses oleo is working against the interests of her husband's business.

Surprising, but true: There are some housewives who try to get along without a pair of household scales.

Conservation time is always with us, especially in making new clothes from old.

—OTTAWA—
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OTTAWA, KANS. CATALOG FREE

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WONDERFUL WAR PICTURES

To see the wonderful pictures of this book is like following the armies. You get glimpses of battles and retreating columns. You see the wounded and dying. You feel like closing your eyes to the misery of it all.

SPECIAL OFFER NO. 1.—Send us \$2.00 to pay for two subscriptions to KANSAS FARMER (your own renewal and one other, or two subscriptions other than your own) and we will send you a copy of the History of the War as described above, FREE AND POSTPAID.

SPECIAL OFFER NO. 2.—Send us \$2.75 to pay your own renewal subscription for three years and we will send you one copy of the History of the War as described above, FREE AND POSTPAID.

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Please send me one copy of The History of the War. I enclose \$2.75 to renew my subscription for three years, according to your offer.

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PLYMOUTH ROCKS.

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

SIMS' BARRED ROCKS—KANSAS CITY winners. Pens mated. Write for mating list. George Sims, LeRoy, Kansas.

BEAUTIFULLY MARKED "RINGLET" Barred Rocks. Eggs, fifteen, \$1.75; hundred, \$8. S. R. Blackwelder, Isabel, Kan.

PURE BUFF ROCK EGGS—FIFTEEN, \$1.50; fifty, \$3.50; hundred, \$6.50. Mrs. Geo. Mortimer, Route 4, Manhattan, Kansas.

RINGLET BARRED ROCK EGGS—PEN stock, \$2 and \$3 fifteen; range, \$1; parcel post paid. R. Sonnenmoser, Weston, Mo.

BARRED ROCK EGGS—BLUE RIBBON stock, barred to skin. \$3.50 for forty-eight or \$5 seventy-two. Valley View Poultry Farm, Concordia, Kansas.

BARRED PLYMOUTH ROCKS—PURE-bred selected, farm raised stock. Eggs for hatching, 6c each. Mrs. W. C. Bocker, Solomon, Kansas.

BUFF ROCKS—SEVENTEEN YEARS successful breeding. Eggs \$3.50 per fifty, \$6.50 per hundred. Mrs. Homer Davis, Walton, Kansas.

FINE BARRED ROCKS, HEN HATCHED, farm range. Eggs, fifteen, \$1; 100, \$6, prepaid. Mary Rodgers, Route 1, Concordia, Kansas.

BARRED PLYMOUTH ROCKS—RANGE, \$1; pen, \$1.50 for fifteen eggs; \$5 and \$8 per hundred. A. E. Mendenhall, Garden City, Kansas.

BUFF AND WHITE ROCKS—WON TWO first prizes at Topeka State Show. Eggs, \$1.50, fifteen; \$6 hundred. W. H. Beaver, St. John, Kansas.

PARK'S 200-EGG STRAIN BARRED Rocks, pedigreed bred, one setting \$2.25; 100 eggs, \$9.00; utility, one setting, \$1.75; 100 eggs, \$7.50. R. B. Snell, Colby, Kansas.

IF YOU WANT BARRED ROCK EGGS from trapnested pedigreed laying stock, send to Farnsworth, 224 Tyler Street, Topeka, for mating list. Free.

BARRED ROCK EGGS FOR HATCHING—Light and dark matings. Good layers. Special matings, \$5 per fifteen; range, \$6 per hundred. C. C. Lindamood, Walton, Kansas.

BARRED ROCKS—STATE FAIR AND Chicago winners. Eggs, \$2 per fifteen; \$8 hundred. Exhibition pens, \$5, fifteen. Guaranteed. Hiram Patten, Hutchinson, Kansas.

IDEAL POULTRY FARM WILL SHIP ON day order is received 48 eggs postpaid from our famous barred to skin heavy laying strain Barred Rocks, for \$3, or \$7.50 for 144. Ideal Poultry Farm, Concordia, Kansas.

PURE-BRED BARRED PLYMOUTH Rock eggs from range-raised hens, fifteen years breeding, winter laying strain. Eggs guaranteed fresh and fertile, true to type. \$1.50 setting, \$7 hundred. Mrs. Jno. P. Kelly, Emmett, Kansas.

WHITE PLYMOUTH ROCKS, NO BETTER anywhere. Have bred them exclusively for 26 years and are extra good layers. Eggs, \$3 per fifteen, from five pens; \$5 per fifteen from first pen. Expressage or parcels post prepaid. Thomas Owen, Route 7, Topeka, Kansas.

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TURKEYS.

NARRAGANSETT TURKEYS, STOCK and eggs for sale. Mrs. John Mitchell, La-fountain, Kansas.

PURE-BRED BOURBON RED TOMS, \$8 each. Satisfaction guaranteed. H. Glitzke, Tonganoxie, Kansas.

FANCY BRED BOURBON RED TURKEYS from selected stock, unrelated, \$10 a pair. Mrs. J. W. Harshbarger, Milo, Kan.

MINORCAS.

S. C. BLACK MINORCA EGGS FOR SETTING. Extra layers. Eggs from pen birds, \$2 per fifteen eggs. Mrs. E. G. Tharp, Protection, Kansas.

DUCKS AND GESE.

ROUEN DRAKES, \$2.50 EACH; ROUEN, Blue Spanish eggs, \$2 per thirteen; Brown and White Chinese goose eggs, \$2.50 per six. Earl Scott, Belvidere, Kansas.

EGGS FROM MAMMOTH PEKIN, FAWN and white, and pure white Indian Runner ducks, \$1.50 per setting, parcel post prepaid. Jacob Lefebvre, Route 2, Havensville, Kan.

BRAHMAS.

PURE-BRED LIGHT BRAHMA EGGS for hatching, \$1.50 per setting of fifteen; \$6 per hundred. C. C. Nagner, Elgin, Neb.

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

LIGHT BRAHMA EGGS FROM LARGE heavy layers, winners in big shows. Pen, \$3, fifteen; flock, \$7 hundred, \$1.75 fifteen. Mrs. Oscar Felton, Blue Mound, Kansas.

WANTED—TO BUY.

RUNNER DUCKS WANTED—TOULOUSE goose eggs, 35c each. Emma Ahlstedt, Lindsborg, Kansas.

SEVERAL BREEDS

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

LEGHORNS.

L. B. RICKETTS, BREEDER OF EXHIBITION and utility Single Comb White Leghorns, Greensburg, Kansas.

SINGLE COMB BROWN LEGHORNS—Winners at the big shows. Eggs, \$6.50 per hundred. Wm. Roof, Maize, Kansas.

S. C. BROWN LEGHORN EGGS—FINE matings. Setting, \$1.50; fifty eggs, \$3.50. Mrs. L. H. Hastings, Thayer, Kansas.

EGGS—FROM KEEP-LAYING SINGLE Comb White Leghorns. T. R. Wolfe, Route 2, Conway Springs, Kansas.

ROSE COMB BROWN LEGHORN EGGS and baby chicks. Mrs. John Holzhey, Bendena, Kansas.

EGGS—S. C. WHITE AND BROWN LEGHORN, fifteen, \$1.50; fifty, \$3.50; hundred, \$6. H. N. Holdeman, Meade, Kansas.

ROSE COMB BROWN LEGHORN EGGS—Fifteen, \$1.50; hundred, \$7. D. L. Higgins, Winona, Kansas.

S. C. W. LEGHORNS, HEAVY WINTER laying strain. Eggs, \$1.50, fifteen, \$4 fifty, prepaid. Steever, K-671, Bridgeport, Neb.

ROSE COMB BUFF LEGHORN EGGS—Exhibition and utility. Mrs. Anna Frank Sorensen, Dannebrog, Neb.

FINE BRED TO LAY SINGLE COMB White Leghorns, eggs, chicks, postpaid. Armstrong Bros., Arthur, Mo.

ROSE SINGLE COMB BROWN LEGHORNS, bred for eggs and exhibition qualities. Eggs, \$7 per hundred; 150, \$10. Prepaid. Plainview Poultry Farm, Lebo, Kan.

PURE-BRED SINGLE COMB WHITE Leghorns, also Silver Wyandottes. Eggs, per fifteen, \$1; \$5 per hundred. A. L. Bowyer, Potwin, Kansas.

BUFF LEGHORN EGGS FROM CHOICE pure-bred heavy layers, \$6 hundred; \$6.50, parcels post prepaid. Mrs. J. L. Dignan, Kelly, Kansas.

FOR SALE—SINGLE COMB WHITE Leghorn eggs from extra good laying strain, \$6 per hundred. I. H. Nagy, Hutchinson, Kansas.

ROSE COMB BROWN LEGHORN EGGS for hatching. Range stock. Extra layers. Fourteen years' breeding. \$7.00 per hundred. Blue Grass Stock Farm, Oneida, Kan.

S. C. W. LEGHORN EGGS FROM Young's strain, hens mated to Baron and Hillview cockerels. \$6.00 hundred, \$1.50 fifteen. Mrs. Ethel Miller, Langdon, Kan.

S. C. BROWN LEGHORNS, BRED 23 years; 222 to 266 egg lines. Eggs, fifteen, \$2; thirty, \$3; fifty, \$4; hundred, \$7. Gorsuch, Stillwell, Kansas.

SINGLE COMB BUFF LEGHORN EGGS, \$6.00 per hundred, \$3.50 per fifty. Satisfaction guaranteed. Alf Johnson, Leonardville, Kansas.

FOR SALE—LAYING UTILITY SINGLE Comb White Leghorn hens. Hatching eggs, pure-bred cockerels, \$2 each. Katie Skelley, Della, Kansas.

BUFF BOOK FREE. ORDER EGGS now. 120, \$10; 50, \$5; 15, \$2. Pens, trap-nested, settings, \$3, \$5. Postpaid. Haines Buff Leghorn Farm, Rosalia, Kansas.

BETTER BROWNS, SINGLE COMB home champions, Federation and Gold Special winners. Eggs from best matings, \$3 per fifteen. Write for mating list. L. D. Dougherty & Sons, Claremore, Okla.

SINGLE COMB WHITE LEGHORN EGGS for hatching. Only choice hens mated to pure white Tom Barron cockerels, \$7 per hundred, \$2 per fifteen. High fertility guaranteed. Harry Givens, Manhattan, Kan.

YOUNG, FRANTZ, FERRIS, YESTER-laid S. C. White Leghorn eggs from show winners and heavy laying stock. Free range, \$6 per hundred. Satisfaction guaranteed. L. O. Wiemeyer, Route 1, Anthony, Kansas.

PURE SINGLE COMB BROWN LEGHORNS, Tormohlen strain. Winter layers. No better farm flock. Eggs, range, 100, \$7; pen, fifteen, \$3, postpaid. Mrs. D. A. Wohler, Hillsboro, Kansas.

SUNNYSIDE EGG FARM—BARRON SINGLE Comb White Leghorn eggs, \$1.50 fifteen, \$8 hundred. Fertile eggs guaranteed. Choice cockerels. Sunnyside Egg Farm, Box F, Hallowell, Kansas.

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ANCONAS.

ANCONA EGGS, FIFTEEN, \$1.25; 100, \$6.50. Mrs. Ed O'Neal, Box 43, Harper, Kansas.

SINGLE COMB ANCONAS, BEST STRAIN on earth, \$2 fifteen, \$3.50 thirty \$5 fifty. Delivered. C. W. Batten, Medford, Okla.

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BLACK LANGSHAN EGGS, 10c; CHICKS, 20c. Mrs. G. W. King, Solomon, Kansas.

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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

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

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

EGGS—SINGLE COMB REDS—DEEP RED under color, \$2 per fifteen. Clyde Karel, Clarkson, Nebraska.

ROSE COMB RED EGGS, \$1.25 FOR FIFTEEN; \$3 for fifty; \$5 per hundred. Tom Cranshaw, Route 2, Maple Hill, Kansas.

FOR SALE—ROSE COMB RHODE ISLAND Reds. Eggs for hatching, \$6.50 per 100. Mrs. James Rist, Humboldt, Nebraska.

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DISPERSION SALE, ROSE COMB REDS. Cause, death of Mrs. Huston. Mated pens, hens, cockerels, cocks, sired by roosters costing \$50 to \$75. Sacrifice prices. W. R. Huston, Americus, Kansas.

PURE-BRED ROSE COMB REDS—Three extra good pens direct from Meyer's famous trap-nested strain. Fifteen eggs, \$1.25, \$1.50, \$2.00; thirty eggs, \$2.00, \$2.50, \$3.50. Fertility guaranteed. M. L. Van Ornam, Superior, Nebraska.

HATCHING EGGS—S. C. R. I. REDS OF the famous C. P. Scott's strain direct. Winners at the World's Fair and 200-egg strain at the American Egg Laying Contest at Leavenworth, Kansas. Flock range as they run, \$2.50 per fifteen eggs, \$8 per fifty, \$10 per hundred. Address Mrs. M. W. Scott, Proprietor Edgewood Farm, Route 5, Topeka, Kansas.

ORPINGTONS.

S. C. BUFF ORPINGTON EGGS, \$6 PER hundred. Mrs. Walter Nelson, Axtell, Neb.

S. C. BUFF ORPINGTONS, OWEN FARM and Cook strain. Setting, \$2, prepaid. Henry Kittell, McPherson, Kansas.

BUFF ORPINGTONS, STATE FEDERATION and Gold Special winners. Eggs, \$3 per fifteen. Write for mating list. Marie Dougherty, Claremore, Okla.

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

PURE-BRED S. C. BUFF ORPINGTON winner eggs, choice matings, \$2.50, \$3.50, \$5 per sixteen. Good hatch guaranteed. Mrs. C. W. Nelson, Osawatomie, Kansas.

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

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

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

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

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

WYANDOTTES.

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

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

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

EGGS FROM MY PRIZE WINNING Regal White Wyandottes, \$1.50 per fifteen. Mrs. Gomer T. Davies, Concordia, Kansas.

ROSE COMB BUFF WYANDOTTE EGGS for hatching, \$1 for fifteen. G. G. Wright, Langdon, Kansas.

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

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

WYANDOTTES.

WHITE WYANDOTTE EGGS FROM prize winning stock, always took first, forty-eight, \$5, seventy-two, Valley Poultry Farm, Concordia, Kansas.

QUALITY ROSE COMB WHITE Wyandottes, great winter laying strain, fifteen, \$1.75; thirty, \$3; fifty, \$4.50; hundred, \$8. Satisfaction, safe arrival guaranteed. Garland Johnson, Mound City, Kan.

WHITE WYANDOTTES—THE WORLD'S greatest laying strains. Eggs, fifteen, \$1.00, \$3, prepaid. Farm raised. Pens mated with males from trapnested with annual records of 227 to 272 eggs. A. Dressler, Lebo, Kansas.

POULTRY WANTED.

YOU ARE SAFE IN SHIPPING poultry and eggs to the old reliable who remit daily full market value, and cases loaned free. "The Copes," Topeka.

Cold, damp, poorly lighted and ventilated poultry quarters favor the spread of such diseases as roup. Such contagious diseases as these are difficult sometimes impossible to control unless given attention in the early stage. Wherever preventive measures fail, arate sick birds from the flock as there is evidence of disease and obtain expert advice to effect a cure.

Eggs from hens that made a showing in laying last winter will more fertile than from those that heavy laying.

GRANGE NOTES

Interests antagonistic to the welfare of the farmer are being organized under the guise of federation. One can help but be impressed with the leadership of these organizations, which are oblivious to all interests except their own. Not long ago our State Mr. Needham, was approached by an organizer who wanted to work with the Grange because it already has a standing. This man said that he could get \$7 for each member he would secure one of the newer orders and that he could do as well in the Grange as would like to "switch over." The Grange does not buy membership and has never resorted to professional organizers to obtain membership. Most of the organizations come voluntarily by a call from the local districts in which they are organized. Our Grange policy is that initiative should come from the people. The professional organizer working for big stakes cannot be expected to have the interest that one would have who personally interested in a cause.

The farm boys are to be released from Fort Riley, the dispatches say. There is no question but that the farmers the boys. The "cost plus" plan is working on the farm even with wheat. The question staring the farmers in the face now is, How can I get the boy on the farm? If the dispatches would quit exploiting the farmer's wealth and his money-making activities at the present time, and instead be willing to allow him the cost plus per cent, they would go a long way in settling the "unrest" which is now being so loudly proclaimed. The farmer is not objecting to the high price of labor so much as he is worrying about being able to pay the high wages demanded. When it is necessary to raise the price, but under present conditions much labor is left undone on the farm because the farmer cannot get enough out of it to pay the bills.

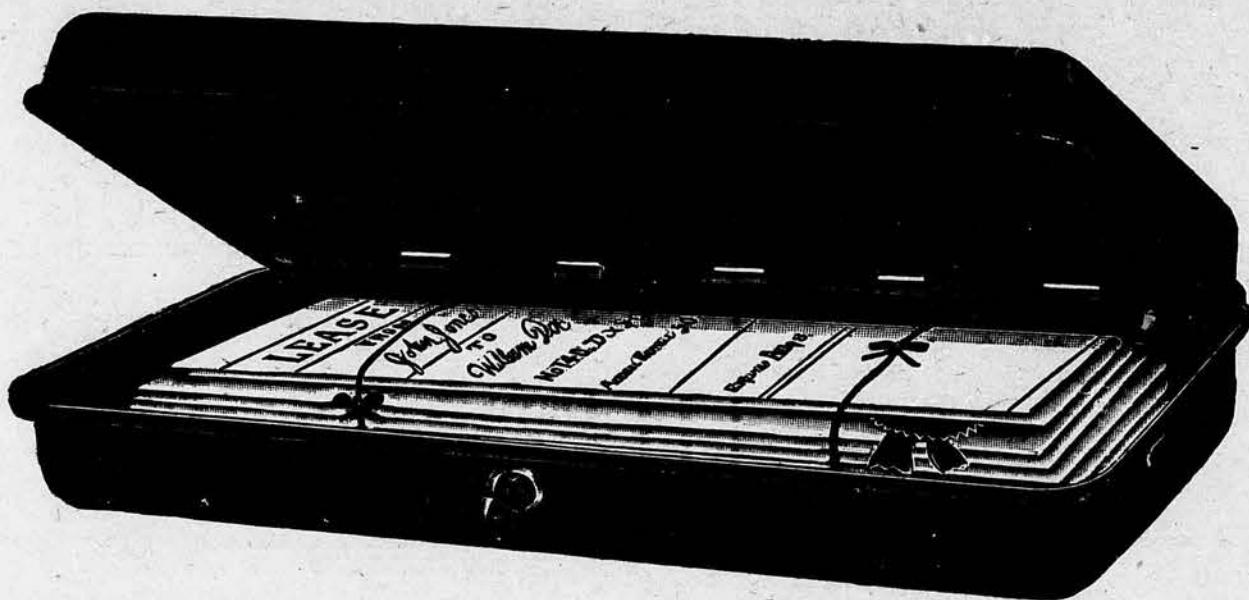
Granges over the state have three interesting questions to discuss—the roads proposition, the Victory loan, and the League of Nations. The Grange state and national, is on the affirmative side of all three of these great questions and wants to see the subordinate Granges do active, aggressive work on all of them.

With the road question there are most as many different opinions as there are people, the main difference being whether there shall be market roads, boulevards. The tourists, road makers, men, and automobilists are for the latter, while the farmers are for the home-to-market roads.

ERNEST MCCLURE, Greeley, Kan.

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HORSES AND MULES.

Plaesant View Stock Farm

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, Dominator 566433, a son of Domino, bred by Guggell & Simpson. A few May bull calves yet.
MORA E. GIDEON, EMMETT, KANSAS



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for early sales. Twenty good jennets for sale. Two Percheron stallions. Come and see me.
PHIL WALKER
Moline, Elk County, Kansas

Percheron Stallion For Sale

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

LLOYD T. BANKS, Independence, Kansas.



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

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

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

J. C. PARKS

HAMILTON, KANSAS

HAMPSHIRE HOGS

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

TWO HAMPSHIRE BOAR PIGS, farrowed in October, at \$50 each, registered and crated. W. C. PARSONS, Barnard, Kansas.

DUROC JERSEYS.

HIGHVIEW DUROCS

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

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

Woodell's Durocs

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

JERSEY CATTLE.

CHOICE JERSEY BULLS

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

MULEFOOT HOGS.

KNOX KNOLL MULEFOOTS

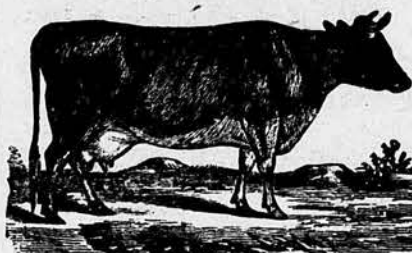
Orders now booked for February litters. Catalog and prices on request.
S. M. KNOX - HUMBOLDT, KANSAS

AUCTIONEERS.

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

JERSEY COW SALE

At Frederick, Kansas
APRIL 23, 1919



60 HEAD JERSEY COWS, 34 head giving milk, 14 head bred to freshen this summer and fall.

12 HEAD CALVES AND YEARLING HEIFERS, all pure-bred but not registered, bred to a registered bull.

25 Head extra high grade Percheron mares and geldings. Several splendid work teams.

I have sold my farm and am making a dispersion sale of all my stock and farm implements. There will be bargains for all.

Dave Racker, Frederick, Kansas

Jesse Langford, Auctioneer.

Farm one mile south of town.

LAPTAD STOCK FARM

Thirteenth Semi-Annual

BOAR SALE

Everything Immuned

THE TOPS OF 1918 CROP

Lawrence, Kansas, April 23, 1919

FORTY HEAD

Twenty Polands



FORTY HEAD

Twenty Durocs

COME, RAIN OR SHINE, APRIL 23, 1919

SEND FOR ILLUSTRATED CATALOG

FRED G. LAPTAD

LAWRENCE, KANSAS

AUCTIONEERS—RULE BROS., OTTAWA; C. M. CREWS, TOPEKA

State Dairy Council Meeting

The State Dairy Council completed its organization at a meeting held in Topeka April 7. We commented editorially on this proposed union of the various dairy interests of Kansas in our issue of April 5. Its purpose is to conduct an extensive campaign of advertising the use of dairy products. Delegates representing the various interests came together at the meeting referred to and the following officers and committees were elected: President, J. J. Corkill, Beatrice Creamery, Topeka; secretary, W. E. Petersen, Manhattan; committee for Ayrshire Breeders' Association of Kansas, James Linn of Manhattan and H. H. Hoffman, Abilene; Jersey Breeders' Association, D. A. Kramer, Washington, and J. A. Porter, Mayetta; Holstein Association, George Appleman, Mulvane, and A. S. Neale, Manhattan; creamery men, J. J. Corkill, Topeka, and G. S. Himes, Kansas City; ice cream makers, J. H. Bennett, Ottawa, and L. R. Manley, Topeka; State Dairy Association, George Lenhart, Abilene, and W. E. Petersen, Manhattan.

It is estimated that \$10,000 will be needed to properly finance the council's program. As already stated, the Holstein breeders have pledged \$2,500. It

is expected that the other breed associations together will raise at least \$2,500 and the manufacturing interests the balance. The creamerymen have already pledged \$2,500. A trained man will be employed to manage the campaign to increase consumption of dairy products. The main office will be in Topeka.

Reflections of a Calf

(After having been fitted out with a patent weaner.)
"The whole world is against me."
"I'd like to fasten this thing on the hired man's face."
"If I look as foolish as I feel with it on, I must be a sight."
"What were milk appetites made for, anyhow?"
"Even mother doesn't want me around with it on."
"May the kaiser wear one for life."
"I hope the fellow who invented this will choke."—Hoard's Dairyman.

The farm home is both a residence and place of business. Considered either, attractiveness is an asset.

It's all right to have a goal in life, but don't forget to enjoy the scenery as you go along.—Selected.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CHOICE HOLSTEIN COWS FOR SALE

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

HOPE HOLSTEIN FARMS - - - HOPE, KANSAS

ANGUS CATTLE

Dietrich's Aberdeen-Angus
Red bulls, fifteen choice spring bulls.
All ages.

A. DIETRICH, CARBONDALE, KAN.

Cherryvale Angus Farm

Offering six choice Angus bulls ranging
age from 9 to 11 months. All sired by
L. No. 187220.

J. W. TAYLOR
Clay Center, Kansas

ANGUS BULLS

For Sale—Seven head bulls from 7 months
to 3-year-old herd bulls. Priced to sell.
If you want or come and see my herd.
Business.

ANK OLIVIER, JR., Danville, Kansas

BREEDERS' DIRECTORY

HEREFORD CATTLE

F. S. Jackson, Topeka, Kan.

RED POLLED CATTLE

Mahlon Groenmiller, Pomona, Kansas.

POLLED DURHAMS

C. M. Albright, Overbrook, Kan.

RED POLLED CATTLE.

RED POLLED CATTLE

BRED AND PRICED RIGHT.

MORSE STOCK FARM

NEOSHO, MISSOURI

RED POLLED BULLS

Twelve head coming two-year-olds and
one head of coming yearling bulls. This
is an extra nice and well colored bunch of
sired by ten sires. Inspection invited.

E. FRIZELL & SONS, FRIZELL, KAN.

RED POLLED CATTLE FOR SALE

Young bulls and some extra good young
cows to calve in early spring. A few year-
ling heifers.

T. FOULTON, MEDORA, KANSAS

RED POLLS, BOTH SEXES, BEST OF
BREEDING.

Wes Morrison & Son, Phillipsburg, Kan.

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POLAND CHINA PIGS

Spring Pigs, Pairs and Trios, \$35 each,
also for \$100. Shipped at weaning time,
free furnished. Mostly by Captain Bob
Caldwell's Big Bob and Wonder King.
Three head boars for sale. Write your
order or come and see my herd.

Frank L. Downie

F. D. 4 Hutchinson, Kansas

THOMPSON'S POLAND CHINAS

A few extra good boars, also a few open
sows, well spotted, good length and plenty
bone, with quality.

A. THOMPSON - HOLT, MISSOURI

INSON'S BIG-TYPE POLAND CHINAS

Red boar over There No. 95555, the
best son of Caldwell's Big Bob. A few
sows and gilts for sale. Bred sow sale
at \$8.

O. JOHNSON - AULNE, KANSAS

LANGFORD'S SPOTTED POLANDS

Red gilts, tried sows, herd boar prospects.
A. Langford & Sons, Jamesport, Missouri

ERHART'S POLAND CHINAS

Have a few bred sows and bred gilts priced
reasonable. All immuned. Several fall boars
for service. Write your wants.

A. J. ERHART & SONS

NESS CITY, KANSAS

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

A Few Fall Pigs.

CHAS. E. GREENE

view Farm Peabody, Kansas

SHROPSHIRE SHEEP

FOR SALE

A bunch of registered Shrop-
shire rams, ready for service.
Priced worth the money. Also
registered ewes.

Howard Chandler, Charlton, Ia.

CHESTER WHITE HOGS

UNFLOWER HERD CHESTER WHITES

type, bred sows. Serviceable boars. Fall
ing pigs. Booking orders for

LOYD COLE, Route 5, North Topeka, Kan.

DORNWOOD

For Sale—Chester Whites. Choice spring
boars and gilts.

ERNWOOD FARM, TOPEKA, KANSAS.

L. E. Gibson, of Emmett, Kansas, owner
of Pleasant View Stock Farm and herds of
the that are among the best in the
west, reports his herds doing fine. A
feature of the Percheron herd at this time
is the fine lot of stallions of the type that
is good. A feature of the Hereford
herd is the great lot of young cows and

BRAEBURN HOLSTEINS

Looking for a bull? I can generally offer
you choice of half a dozen, by two different
sires. That saves time and travel.

H. B. COWLES
608 Kansas Avenue Topeka, Kansas

BUTTER-BRED HOLSTEINS

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

J. P. MAST, - SCRANTON, KANSAS

Holstein Calves

Extra choice, beautifully marked, high-
grade calves from heavy milking dams,
either sex. Write us for prices and descrip-
tion.

W. C. Kenyon & Sons

Holstein Stock Farms, Box 33, Elgin, Illinois

GOLDEN BELT HOLSTEIN HERD

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

W. E. BENTLEY, MANHATTAN, KANSAS

REGIER'S HOLSTEINS

Registered bulls ready for service and bull
calves, out of good producing dams. Sire:
Sir Rag Apple Korndyke De Kol and Duke
Ormsby Pontiac Korndyke.

G. REGIER & SONS, Whitewater, Kansas

HOLSTEINS!

We are offering a choice selection of both
registered and high grade springer cows and
heifers. Also pure-bred bulls and young
females. All reasonably priced. Come and
see them or write.

T. R. Maurer & Co.

EMPORIA - - - KANSAS

CHOICE HOLSTEIN CALVES

12 Heifers and 2 Bulls, highly bred, beau-
tifully marked, and from heavy producing
dams, at \$25 each, crated for shipment any-
where. Safe delivery guaranteed. Write

FERNWOOD FARM, WAUWATOSA, WIS.

SEGIST & STEPHENSON, WOLTON, KANSAS

Brooders exclusively of pure-bred prize-winning record-
breaking Holsteins. Correspondence solicited.

SHORTHORN CATTLE.

It Pays to Grow Shorthorn Beef

H. M. Hill, Lafontaine,
Kan., sold 18 yearling pure-
bred Shorthorn steers at
Kansas City, weighing 1,300
lbs., for \$224.60 per head.

Two Shorthorn grade calves
6 months old sold at Pitts-
burgh, Pa., March 31, at
180, weight 605 lbs. each,
\$108.90 per head.

Two yearling Shorthorn
steers on the Pittsburgh
market in December brought
25c, weight 1,350 lbs., price
per head \$337.50, and five
short yearlings weighing 900
lbs. brought 20c, \$180 each.

You get quality and weight both with the Shorthorn.

AMERICAN SHORTHORN BREEDERS' ASS'N.

13 Dexter Park Avenue Chicago, Illinois

Ask for a copy of "The Shorthorn in America."

MARK'S LODGE RED SHORTHORNS

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

M. F. MARKS, VALLEY FALLS, KANSAS

SHORTHORN CATTLE

For Sale—Five young Scotch bulls and ten
head of females, bred or calves at foot.

H. H. HOLMES, R. F. D. 28, Topeka, Kan.

"We congressmen want the farmers to
organize," said Senator Gore of Okla-
homa recently. "It will have many ad-
vantages. Labor is organized and when
organized labor speaks every politician
puts his hand to his ear. If you farm-
ers will organize, politicians will listen
for your slightest whistle."

The farmer who provides places for
the native birds to build their nests will
find the birds will pay good rent by
devouring destructive insects.

A. J. Erhart & Sons, of Ness City, Kan-
sas, who are well known among Poland
China breeders, topped the market at Kan-
sas City with a carload of Poland China
barrows. They weighed at eight months
of age 280 pounds and sold for \$20.30 with
a run of 18,000 hogs on the market. This
is the way Erhart & Sons market their
surplus boars. Every one of this lot was
the big type Poland China and could have
been registered. Erhart & Sons have a
large herd of Poland Chinas and only the
choice animals are held for breeding pur-
poses, all others being shipped to the mar-
ket. This firm owns Big Sensation, the
largest boar of any breed, weighing 1,230
pounds.

Farmers, Stockmen, Oil Men
ATTENTION!

BUY GOVERNMENT HORSES

Your Opportunity to Secure High Grade Stock

AUCTION SALE
Government Horses and Mules

An Additional 3,400 Horses and Mules to be Sold at Auction
to the highest bidder at 8:30 a.m., April 28, 29
and 30, 1919, at the

AUXILIARY REMOUNT DEPOT NO. 329,
CAMP TRAVIS, SAN ANTONIO, TEXAS

1,150 CAVALRY HORSES 1,250 ART. DRAFT HORSES
(1,200 to 1,500 lbs.)

1,000 MULES

To be Sold Singly and by Teams

A number of these animals are mares suitable for breeding
purposes

These animals are serviceably sound and are free from
contagious disease. Veterinarian's certificate furnished.

The Government reserves the right to reject any and all
bids. Cash or certified checks necessary at time of sale.

Stock will be allowed to remain at depot 24 hours after sale.

A halter and shank will be furnished with each animal,
free of charge.

Arrangements can be made for shipping animals from
the depot.

Transportation will be furnished from Travis Park, South-
west corner and from the end of the Alamo Heights car line
to sale. Lunch can be obtained on the grounds.

For additional information address:

COMMANDING OFFICER,
A. R. D. No. 329, Camp Travis, Texas

FARM AND HERD
NEWS NOTES

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

Address All Communications to
Kansas Farmer, and Not to
Individuals

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

CLAIM SALE DATES.

Jersey Cattle.

June 24—Dr. J. H. Lomax, Leona, Kan.

Shorthorns.

May 16—Park E. Salter, Wichita, Kansas.

Holsteins.

May 12—A. S. Neale, Manhattan, Kan.

Hereford Cattle.

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

May 14—I. W. Bowman & Co., Ness City,
Kansas. Sale at Hutchinson.

May 13—Sam Drybread & Son, Elk City,
Kan. Sale at Independence, Kan.

James A. Thompson, of Holt, Missouri,
owner of one of the high class herds of the
old original big boned Spotted Polands now
assembled, reports his herd doing well. Mr.
Thompson has built up a herd of this popu-
lar breed of hogs that are the mellow easy
feeding kind. A feature of his herd at this
time is the extra fine lot of open gilts and
boars sired by Spotted Boy 69335 by Spot-
ted Giant and out of big high quality dams
by the best boars of the breed.

Volume 57 of the National Duroc Record
is now ready for distribution. This volume
contains the pedigrees of males from No.
246301 to 253499, the pedigrees of females
from 612900 to 635495, and other valuable
information to Duroc breeders.

Frank L. Downie, of Hutchinson, Kansas,
has built up a splendid herd of Poland

China hogs. Mr. Downie has at the head
of his herd of sows Captain Bob, one of
the good sons of Caldwell's Big Bob, and
Wonder King by the great show boar, A
Wonderful King, a boar that was the grand
champion at the Kansas State Fair, shown
by F. Olivier & Sons. Several of the herd
sows are by Iowa King, Big Hadley Jr.,
Gerstale Monster and other good boars. A
feature of the herd at this time is the
sixty-five head of February and March
spring pigs now on the farm.

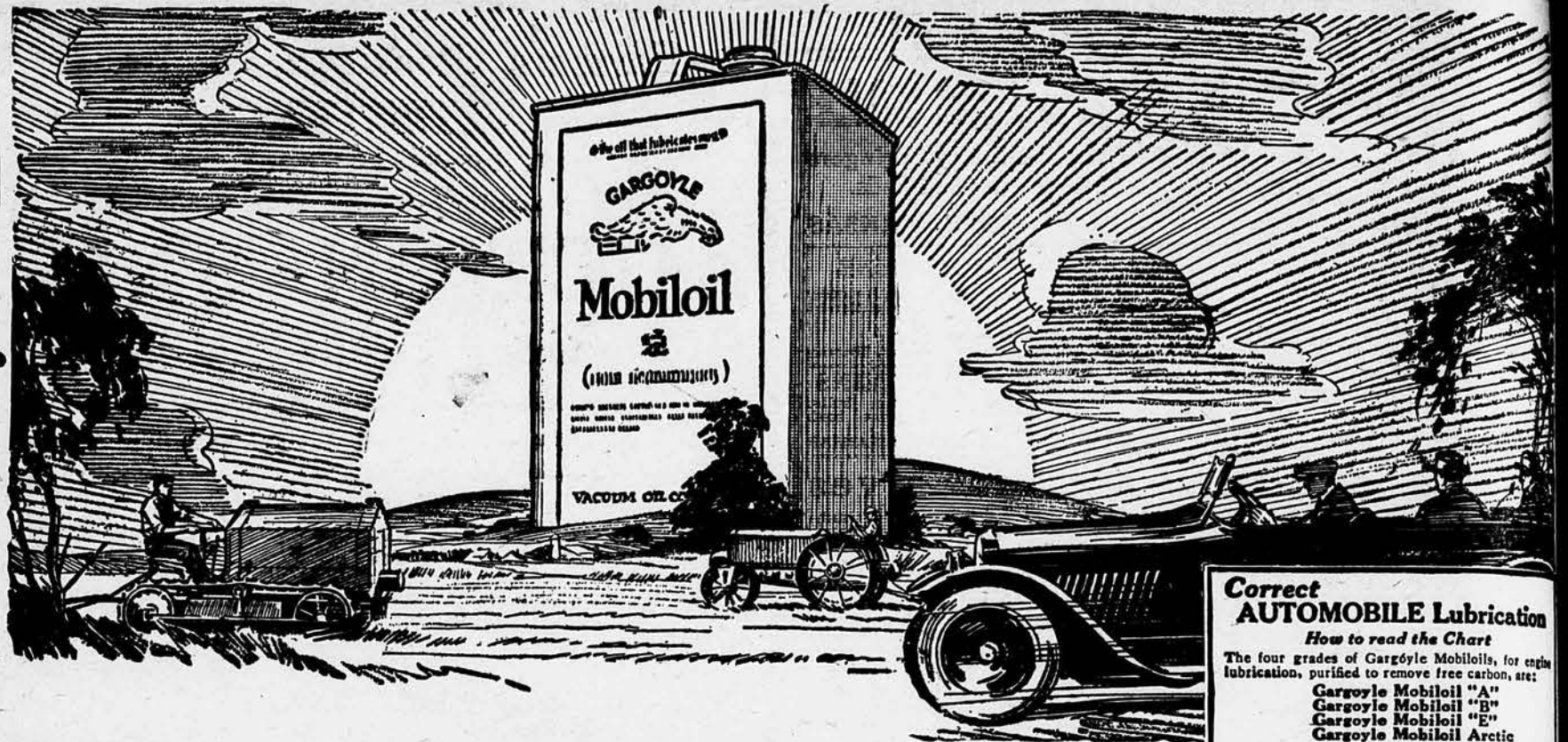
Three thousand four hundred horses and
mules will be sold by the government in a
three days' sale to be held at Camp Travis,
Texas, April 28, 29 and 30. The offering
will consist of cavalry, artillery draft horses
and mules.

G. Regier & Sons, of Whitewater, Kansas,
owners of one of the outstanding herds of
Holsteins in Kansas, report their herd mak-
ing a good record. This is one of the Kansas
herds of Holsteins that is bred for produc-
tion. One of the features of the herd at
this time is the fine lot of young stock,
including young bulls by Sir Rag Apple
Korndyke and Duke Ormsby Pontiac Korn-
dyke.

David Racker, of Frederick, Kansas, has
been breeding Jersey cattle for twenty years
on his well improved farm near Frederick.
Owing to selling his farm he has announced
April 23 for a complete dispersion of his
sixty head of Jersey cows and heifers. Mr.
Racker has always used pure-bred sires and
has several cows that are eligible to regis-
try, but the papers have not been kept up
on the herd. Thirty-four head of cows are
now in milk. Fourteen head will freshen
soon and twelve head of calves and heifers
will be offered that are very promising for
dairy stock.

Lloyd Cole, of North Topeka, owner of
Sunflower herd of Chester White hogs, re-
ports his herd doing well. Mr. Cole has
built up one of the good herds of big-type
Chester Whites in Kansas. The blood lines
of his herd are the best of the breed and
his herd of brood sows is a very fine lot
of individuals. A feature of his herd at
this time is the choice lot of bred sows,
bred and open gilts and outstanding young
boars.

The manager of Dornwood Farm, Topeka,
the home of choice herds of Jersey cattle
and Chester White hogs, reports the herds
doing well. The Jersey herd on this farm
is noted for heavy production. The breed-
ing of the Chester White herd is the best
of the breed and they have the early ma-
turing, easy feeding type. A feature of
the Chester White herd at this time is the
choice lot of spring boars and gilts.



Getting the most from Mother Earth

Correct TRACTOR Lubrication

How to read the Chart

The four grades of Gargoyle Mobiloils for tractor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "BB"
Gargoyle Mobiloil Arctic

In the Chart below, the letter opposite the tractor indicates the grade of Gargoyle Mobiloils that should be used.

TRACTORS	1918 Models	1917 Models	1916 Models	1915 Models
Albaugh-Dover (Square Turn)	BB	BB	A	BB
Allis-Chalmers	B	B	A	A
All Work	B	B	A	A
Andrews	B	B	A	A
Appleton	BB	BB	A	A
Aultman-Taylor	B	B	A	A
Avery	B	B	A	A
" (8-10 HP.)	B	B	A	A
" (Louisville)	B	B	A	A
Bates Steel Mfg.	B	B	A	A
Best	B	B	A	A
" (8-10)	B	B	A	A
Big Bull	B	B	A	A
Bower City	B	B	A	A
Buckeye (Indiana)	BB	BB	A	A
" (Indiana) (Giant Baby)	BB	BB	A	A
" (Ohio)	BB	BB	A	A
Casa	A	A	A	A
" (10-20)	A	A	A	A
" (12-25)	BB	BB	A	A
" (20-40)	BB	BB	A	A
Chas.	BB	BB	A	A
Cleveland	BB	BB	A	A
Commonwealth	B	B	A	A
C. O. D.	BB	BB	A	A
Corn Belt	BB	BB	A	A
Creeping Grip	BB	BB	A	A
Emerson-Brantingham (EB)	A	A	A	A
" (Big Four)	A	A	A	A
" (Reeves)	A	A	A	A
Farm Home	B	B	A	A
Four City	B	B	A	A
" (Heavy Duty)	B	B	A	A
Gedloway	B	B	A	A
Gle Pull (Rumely Co.)	B	B	A	A
Grain Belt	BB	BB	A	A
Gray	BB	BB	A	A
Happy Farmer	B	B	A	A
" (Model B)	B	B	A	A
Hart Parr	BB	BB	A	A
Holter	B	B	A	A
Hols Caterpillar	B	B	A	A
" (Model 45)	B	B	A	A
" (Model 18)	B	B	A	A
Huber	BB	BB	A	A
Imperial Farm	B	B	A	A
Ingers	A	A	A	A
Kardell	BB	BB	A	A
" K. C. Prairie Dog	BB	BB	A	A
Kinkadee	BB	BB	A	A
Lion	BB	BB	A	A
Little Giant	BB	BB	A	A
Maytag	BB	BB	A	A
Minneapolis	B	B	A	A
Model (I. H. Co.)	BB	BB	A	A
" (8-10) (I. H. Co.)	A	A	A	A
Moline Universal	BB	BB	A	A
New Age	BB	BB	A	A
Nichols & Shepard	BB	BB	A	A
Nihon	B	B	A	A
Oil Pull (Rumely Co.)	B	B	A	A
" (14-28, 10-20, 30-40)	B	B	A	A
" (Rumely Co.)	BB	BB	A	A
Parsons	BB	BB	A	A
Peoria	B	B	A	A
Pioneer	B	B	A	A
Plow Boy	BB	BB	A	A
Elow Matt	BB	BB	A	A
Pontiac	B	B	A	A
Rumely	B	B	A	A
" (8-10)	BB	BB	A	A
Russell	B	B	A	A
" (Little Four)	BB	BB	A	A
Standard	BB	BB	A	A
Standard	BB	BB	A	A
Strat	BB	BB	A	A
Titan (I. H. Co.)	BB	BB	A	A
Tom Thumb (8 cy.)	B	B	A	A
Union City	B	B	A	A
" (Model 15)	BB	BB	A	A
" (Model 18)	BB	BB	A	A
Wallis Co.	BB	BB	A	A
" (Junior)	BB	BB	A	A
Waterloo Boy	BB	BB	A	A
Wisconsin	BB	BB	A	A
Wright	BB	BB	A	A

The part played by Correct Lubrication

WITH ever-widening markets for their crops, progressive farmers realized that animal power long ago reached its limit of production.

So they turned to mechanical power, as have men in other industries. With mechanical power they made the trip to town a matter of minutes instead of hours. They plow deeper, work faster, and cultivate a much bigger acreage.

The automobile and the tractor have become standard agricultural implements—one to shorten distances and the other to shorten labor.

The great war demonstrated two things:

- 1.—That mechanical power multiplies crop results.
- 2.—That mechanical power, operated and maintained at highest efficiency, gets the *ultimate* out of Mother Earth—at costs per acre far below any ever before recorded.

Whether you use an automobile or a tractor—or both—

you know the difference in power results and economy, between engines that operate at maximum efficiency at all times and those which are constantly breaking down in service.

Through long, successful years, one engine user after the other has turned to the *correct grade* of Gargoyle Mobiloils because the *correct grade* keeps their engines delivering their best. Our engineers, after years of careful research, have produced the two Authoritative Charts of Recommendations shown here. These Charts tell at a glance the correct grade of Gargoyle Mobiloils for any make of automobile or tractor for both summer and winter use.

Farmers who operate automobiles successfully, farmers who get the most out of their tractors, regard the Vacuum Oil Company's Chart of Recommendations as authoritative guides to correct lubrication.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container.

VACUUM OIL COMPANY, New York, U. S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world

Domestic Branches: New York Philadelphia Detroit Minneapolis Kansas City, Kan.
Boston Pittsburgh Chicago Indianapolis Des Moines

Correct AUTOMOBILE Lubrication

How to read the Chart

The four grades of Gargoyle Mobiloils, for engine lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "BB"
Gargoyle Mobiloil Arctic

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A", "Arc" means Gargoyle Mobiloil Arctic, etc. The recommendations cover all models of both passenger and commercial vehicles unless otherwise noted.

This Chart is compiled by the Vacuum Oil Company's Board of Engineers and represents our professional advice on Correct Automobile Lubrication.

AUTOMOBILES	1918 Models	1917 Models	1916 Models	1915 Models	1914 Models
Abbott	Arc	Arc	Arc	Arc	Arc
Abbott-Detroit	Arc	Arc	Arc	Arc	Arc
" (8 cy.)	Arc	Arc	Arc	Arc	Arc
Allen	A	A	A	A	A
Apperson	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Auburn	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
" (6-38 & 6-39)	A	A	A	A	A
" (6-38) (Teeter H)	A	A	A	A	A
" (6-38) (Cont.)	A	A	A	A	A
Autocar	A	A	A	A	A
" (2 cy.)	A	A	A	A	A
Blanco	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Buick	A	A	A	A	A
Cadillac	A	A	A	A	A
Case	A	A	A	A	A
Chalmers	A	A	A	A	A
" (8-40)	A	A	A	A	A
Chandler	A	A	A	A	A
Chrysler	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
" (F.A.)	A	A	A	A	A
Cole	A	A	A	A	A
Cunningham	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Dart	A	A	A	A	A
" (Mod. C)	A	A	A	A	A
" (2 & 3 1/2 ton)	A	A	A	A	A
Detroit	A	A	A	A	A
Dodge Brothers	A	A	A	A	A
Dodge	A	A	A	A	A
Empire	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Federal	A	A	A	A	A
" (Mod. S-X)	A	A	A	A	A
" (Special)	A	A	A	A	A
Fiat	A	A	A	A	A
Ford	A	A	A	A	A
" (2 & 3 1/2 ton)	A	A	A	A	A
Franklin	A	A	A	A	A
Grant	A	A	A	A	A
Haynes	A	A	A	A	A
" (12 cy.)	A	A	A	A	A
Hudson	A	A	A	A	A
" (Super Six)	A	A	A	A	A
Hupmobile	A	A	A	A	A
Kelly Springfield	A	A	A	A	A
King	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
" (Com.)	A	A	A	A	A
Klondike	A	A	A	A	A
" (Mod. 48)	A	A	A	A	A
" (12 cy.)	A	A	A	A	A
Laington	A	A	A	A	A
Lipard Stewart	A	A	A	A	A
" (Mod. M)	A	A	A	A	A
" (Mod. W)	A	A	A	A	A
Locomobile	A	A	A	A	A
McFarlan	A	A	A	A	A
Madison	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Marmont	A	A	A	A	A
Maxwell	A	A	A	A	A
Mercedes	A	A	A	A	A
" (22-70)	A	A	A	A	A
Mitchell	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Moline-Knight	A	A	A	A	A
National	A	A	A	A	A
" (12 cy.)	A	A	A	A	A
Oakland	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Oldsmobile	A	A	A	A	A
Overland	A	A	A	A	A
Packard	A	A	A	A	A
" (12 cy.)	A	A	A	A	A
" (Com.)	A	A	A	A	A
Paige	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
" (6-36)	A	A	A	A	A
" (6-38-39)	A	A	A	A	A
" (6-40)	A	A	A	A	A
Paterson	A	A	A	A	A
Pathfinder	A	A	A	A	A
" (12 cy.)	A	A	A	A	A
Perkins	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Pierce Arrow	A	A	A	A	A
" (Com.)	A	A	A	A	A
Premier	A	A	A	A	A
" (8 cy.)	A	A	A	A	A
Reo	A	A	A	A	A
" (French)	A	A	A	A	A
Riker	A	A	A	A	A
Saxon	A	A	A	A	A
Selden	A	A	A	A	A
" (14 ton)	A	A	A	A	A
Simplex	A	A	A	A	A
Stearns-Kir	A	A	A	A	A
Studebaker	A	A	A	A	A
Stutz	A	A	A	A	A
" (4 cy.)	A	A	A	A	A
" (2 & 3 1/2 ton)	A	A	A	A	A
" (14 ton)	A	A	A	A	A
Westcott	A	A	A	A	A
White	A	A	A	A	A
" (16 valve)	A	A	A	A	A
Willys-Knight	A	A	A	A	A
Willys Six	A	A	A	A	A
Winton	A	A	A	A	A