

KANSAS FARMER

For the improvement

of the Farm and Home

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SILAGE IN BEEF MAKING

Experimental Figures From Four States Prove Its Value

By E. W. CURTIS

THE experiment stations of four of our leading stock raising states have recently published bulletins concerning the feeding of silage to large and small rations to steers. One station compared cane with corn silage as a ration for calves. The experiment stations of our country have for thirty or thirty-five years been using silos. These early structures, however, were crude and hardly fitted for preserving fodder. They were, as a rule, square boxes built in the corner of the barn and made either of stone or boulders. They ranged from fifteen to twenty feet square and very little higher. The silage spoiled in the corners and naturally they were unsatisfactory. These old silos, however, have long disappeared and now modern silos are in use made of either tile, cement or wood. They are round and narrow in diameter but vary in height, running from thirty to forty feet.

Up until about four or five years ago the experiment stations that were studying silage rations compared this ration with a shelled corn, oil meal or cottonseed meal and hay ration, but in the last year or two the experiment stations almost without exception are comparing rations somewhat as follows: sixteen pounds of shelled corn or ground corn, two to three pounds of cottonseed meal, twenty-five pounds of silage and a pound or two of alfalfa or clover hay, with say fifty pounds of silage, two to three pounds of cottonseed or oil meal, and a pound of alfalfa or clover hay. In other words, instead of comparing a silage with a non-silage ration, they have concluded, almost without exception, that silage was the great cheaper of costs and they are comparing a half silage ration with a full silage ration rather than a comparison between a full silage ration and a non-silage ration.

It is interesting to note that the experiment stations have nearly ceased working on silage as a dairy ration, for they have long ago established this fact and have shown its economy as a milk and butter fat producer. They are therefore turning their attention mostly to the amount of silage to use in the beef ration.

Later on in this article we will give the actual figures from the four experiment stations above mentioned. It is outstanding, though, in these various experiments that the gains per day have been approximately the same for the combined corn and silage ration and the heavy silage ration lots. Some of the stations show better gains per day in the corn and silage lots. In average cases, however, the cost of manufacturing a hundred pounds of meat was from 10 to 50 per cent lower when the heavy silage ration was used. It is admitted that when the cattle were fed the heavy silage ration the flesh was not quite so

hard, and, as a rule, the buyer valued them at 25 to 50 cents per hundred pounds less. But, in spite of this handicap, a heavy increase in profit was made with the heavy silage-fed lot.

In what follows the figures given have to do with experiments pertaining directly to silage feeding, comparing heavy silage rations fed to beef cattle during a finishing period with rations having a small amount of silage and in addition shelled or ground corn.

Wisconsin Silage Test

In a Wisconsin beef production test to determine the value of silage two lots of ten steers each were fed. Lot 1 was fed a small amount of silage with shelled corn and a little cottonseed meal, while Lot 2 was fed heavily on silage with mixed hay as additional roughage and a small allowance of cottonseed meal. The steers averaged 920 pounds at the beginning of the test and were fed for 112 days, the steers in Lot 1 making an average daily gain of 2.4 pounds and those in Lot 2, 2.33 pounds. In Lot 1 the average daily ration to the steer was 12.4 pounds shelled corn, 2.7 pounds cottonseed meal, 32.8 pounds silage, 2.2 pounds of mixed hay, the average daily cost being 54 cents. Lot 2 steers ate 3.5 pounds cottonseed meal daily, 56.4 pounds silage, 2.6 pounds mixed hay, the average daily cost being 37 cents. In figuring the cost of a hundred pounds of gain it was found that in Lot 1 it amounted to \$22.64; the profit per steer, not counting the profit from hogs, was \$8.44, and counting hogs, \$19.36. In the heavy silage lot a hundred pounds of gain had cost \$16.03, the profit per steer, not counting hogs, being \$20.35, and

counting hogs, \$25.33. Corn was charged at \$1.33 a bushel, cottonseed meal at \$65 a ton, silage \$8 a ton, and mixed hay \$25 a ton.

Results in Missouri Test

Now let us see how they came out in Missouri. Two lots of eight steers each were fed about the same rations as in the Wisconsin test, the feeding period being eighty-three days. The steers in the beginning were about a hundred pounds lighter than the Wisconsin steers. At the end of the eighty-three days the corn-fed steers had gained at the rate of 3.35 pounds daily, the average ration per steer being 15.29 pounds shelled corn, 2.55 pounds linseed oil cake, 25.23 pounds silage, and 2.38 pounds clover hay. The total cost of feed to the steer amounted to \$50.23, and the cost of a hundred pounds of gain to \$15.95. In the lot fed a heavy ration of silage and no corn the steers had gained at an average rate of 2.39 pounds daily, the average daily ration being 3.67 pounds of linseed oil cake, 40.33 pounds silage, and 4.84 pounds clover hay. The total cost per steer amounted to \$21.17, and the cost of a hundred pounds of gain to \$10.69.

Silage Test in Iowa

In Iowa two-year-old steers, five head to the lot, were fed 120 days, the comparison being between what was called the "standard corn-belt ration" and the "no-grain ration." The steers fed the standard ration made an average daily gain of 2.98 pounds. Their average daily feed was fifteen pounds shelled corn, three pounds linseed oil meal, 27.4 pounds silage, and .9 pound alfalfa hay. The cost of a hundred pounds of gain

amounted to \$22.60, and the profit per steer was \$15.83. The no-grain lot made an average daily gain per steer of 2.74 pounds. The average daily ration per steer was three pounds linseed oil meal, fifty-two pounds silage, and 1.5 pounds alfalfa hay, the cost of a hundred pounds of gain amounting to \$16.08 and the profit per steer \$23.11. Feed costs were figured as follows: Shelled corn, \$1.45 a bushel; linseed oil meal, \$70 a ton; silage, \$12 a ton; and alfalfa hay, \$30 a ton.

It is interesting to note in the above experiment that the farmer who can sell his corn crop in the form of silage to his steers at \$12 per ton, counting the average yield for Iowa as ten tons to the acre, will make a good big profit, even though he only comes out even in the operation of feeding his steers. In the above experiment it shows that the Iowa farmer can sell his crop to his steers at \$120 an acre and that he can still make a profit on the steers of from \$23.11, not including the hogs, up to \$27.32 if the hogs are counted.

Kansas Silage Experiment

In Kansas the past season two-year-old steers were fed experimentally for a period of ten days in lots of ten each. The lot fed ground corn made an average daily gain per steer of 3.31 pounds. The average daily ration in this lot was 15.31 pounds of corn, 13 pounds alfalfa hay, and 2.72 pounds linseed oil meal, the total feed cost of a hundred pounds of gain being \$21.48. The steers in this lot received no silage, which makes this test differ somewhat from the ones given above. The silage-fed steers made an average daily gain of 3.03 pounds to the steer, and their average daily ration was 2.95 pounds alfalfa hay, 2.69 pounds linseed oil meal, and 60.55 pounds cane silage. The feed cost of a hundred pounds of gain in this lot amounted to \$12.31.

Dr. C. W. McCampbell, head of the animal husbandry department at the Kansas Experiment Station, points out that "a comparison between the results obtained in Lots 1 and 4 show that 1,996.81 pounds of silage fed in Lot 4 replaces 469.6 pounds of corn fed in Lot 1. In other words, a ton of cane silage replaces eight and one-half bushels of corn." He also mentions that the yield of corn on the college farm, owing to the extreme dry weather of last summer, was only about three and a half tons per acre, but that the yield of cane silage was approximately nine tons to the acre.

It is well to digress for a moment and note that at the same time the Kansas station was feeding the above two-year-old steers, they were feeding calves also. They show that the calves made a gain of 321 pounds each in 110 days. The steers made a gain of 354 pounds in the same period; the daily gain per calf be-

(Continued on Page Nine)



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MECHANICS ON THE FARM

Items of Interest About Automobiles, Engines, Tractors and Motorcycles

Truck Driving Hints

DURING the hot weather season there are certain types of trouble especially apt to occur in driving trucks, automobiles, and tractor engines. Alfred F. Masury, a special motor truck engineer, offers some timely suggestions to aid drivers in avoiding certain troubles during hot weather.

First of all it is necessary to understand the cooling system. Do not expect the truck to labor in low gear up long grades or through deep sand, perhaps with a trailer, and still keep cool if carbon deposit is permitted to accumulate in the cylinders, if insufficient water is put in the radiator, if the oil level is low or the oil is of the wrong kind.

At the beginning of the season it is ordinarily necessary to change the carburetor adjustment, the best fuel mixture in summer being a trifle leaner than that for winter. Overheating is sure to result if the carburetor is improperly adjusted.

Timing has an important bearing on cooling. In hot climates where temperatures are excessive for a considerable part of the year, the engine may be made to run cooler, but at a slight sacrifice of power, by setting the camshaft one tooth ahead (earlier) on the timing gears, so that the exhaust valves open earlier. A weak spark has the same effect as late spark timing, and overheating will result.

Difficult grades can be made with greater speed and less fuel in intermediate than if the engine is permitted to labor in high to the point of stalling. Contrary to popular supposition the engine will cool better if it is not obliged to labor excessively.

Keep the exhaust clear of obstructions and do not allow mud to cake on the outside of the muffler or to clog the outlet.

The radiator must be filled as full as possible. Do not allow the overflow pipe to become clogged, or flattened by a blow or kink or slip down in the radiator.

Use only the best quality of rubber hose for water connections. The inside of cheap tubing is apt to dissolve and the rubber particles clog up the system. Go over hose connections in the spring because some anti-freeze solutions have a deleterious effect upon the rubber. Also they have a scum inside the radiator which will not dissipate the heat. It must be cleaned out.

In filling the radiator only clean water should be used. Strain the water through a cloth where none but dirty water is available. Above all do not use buckets in which oil has been kept.

Keep the fan clean and well greased, so that it will turn freely.

Not all of the cooling of the engine is effected by water; but lubricating oil plays an important part as it cools the bearings. Keep the crankcase clean; it cools the oil. It has been found that gasoline washes the lubricant from the cylinder walls and a mixture of gasoline and oil runs into the crankcase where in time it destroys the lubricating qualities of the oil. For this reason the oil in the crankcase should be drained and replaced with new oil every 1,500 miles. If this is not done the oil will be unable to properly lubricate the rubbing surfaces and heating will result.

The average working temperature of oil in summer is higher than in winter, and so oil of the same body will be thinner. Sometimes it is advisable to use a grade heavier oil in summer. In excessively hot spells an especially heavy grade of oil may be required to maintain the oil at the proper consistency in operation. When a heavier oil is used care should be taken not to work the

engine too hard before it is warmed up. Buy oil only from reliable refiners.

Laying By the Binder

Thousands of binders on Kansas farms have just completed their work for the year and will stand idle until time to harvest next year's crop. Binders and mowing machines are of more or less complicated design and represent a considerable investment. It is necessary that they be given good care in order that they may be in proper working order for another year. The care they receive will to a large extent determine their efficiency and length of life. On some farms it is nothing unusual to find binders that have been used only a year or two practically out of commission, while on other farms binders of the same make seven or eight years old will still be performing efficient service. It is largely a matter of difference in care.

In laying by the binder all dirty bearings should be well cleaned and polished and then given a heavy coat of oil or grease so that they will not rust. Remove the sickle and after giving it a good overhauling coat with oil and store in a dry place. The machine should be well inspected and any repairs needed ordered at once. It is an easy matter to recall needed repairs just after a machine has been used, but if no attention is paid to this the matter will probably be forgotten until the machine is in the field and the defective part becomes apparent. Ordering repairs now will make it certain that your machine will be in working order when needed next year.

Proper housing of such high-priced machines as binders or mowers is absolutely essential if they are to give long service. The average life of a binder is only about five or six years because the average binder is left outdoors throughout the year. When one stops to think that a binder is in actual use only about ten days of the year this extremely short life may be better appreciated. With proper housing a binder may be made to last fifteen or twenty years. A machinery shed is a profitable and economical investment on any farm.

Truck Delivery of Tractor

A three and a half ton truck from the Minneapolis factory of one of the big truck and tractor manufacturing companies hauled a 12-20 tractor set up and ready for work from its factory to the Wichita power farming demonstration. This tractor was delivered to its branch house in Wichita. It is the intention of this company to deliver at least one tractor in this manner to each of its various branches.

The purpose of this long overland haul was largely to demonstrate the practicability of the "ship-by-truck" movement. The outfit created considerable interest in the course of the long trip. In many cases the roads were none too favorable, and the farmers were surprised to see a truck loaded slightly in excess of its rated capacity on roads where truck traffic was considered practically impossible. The outfit was well decorated with advertising banners and several plowing demonstrations were conducted en route. Even with the stops made, the truck averaged from fifty to sixty miles a day. It was a unique method of advertising this particular make of truck and tractor and also served to visualize the possibilities of truck transportation over ordinary country roads.

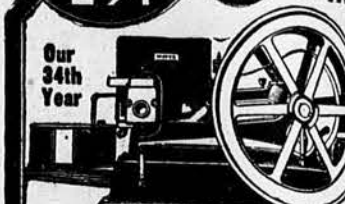
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WHEAT SEED BED EXPERIMENTS

On page 6 of this issue we give briefly the results of nine years experimental work in comparing different methods of seed bed preparation for wheat on the Kansas Experiment Station farm at Manhattan. This work has been done on one-tenth acre plots under practically uniform conditions as regards the different plots. Even on these small plots it has not always been possible to perform the various operations at the uniform fixed date each year. The results of this test, covering as it does a period of nine years, are of the greatest value to wheat growers of the state. The function of the experiment station in conducting this test has been to perform the work on each plot as nearly in line with the schedule planned as possible. The plowing, disking, or listing could not always be performed on the fifteenth day of the month, but the work was done as near to that date as possible. It has been the further duty of the station to faithfully record the results, using every effort possible to eliminate error. This has been done and for several years the results as they have accumulated have been given to the public. In our issue of July 19 we gave in more detail the information obtained up to and including the 1917 crop, and also endeavored to interpret the results as they might be made applicable to different sections of the state and to different conditions.

We sometimes hear the criticism made that theoretical book farmers lay down as a fundamental principle that the actual farmer must plow his wheat ground at some definite depth and at some definite time in order to get the best results. It is not our purpose to permit any such positive instructions on how or when to perform various farm operations to gain entrance to the columns of KANSAS FARMER. Farming is too complex to permit of any "rule of thumb" procedure. The man who succeeds best in farming is the one who understands most fully the fundamental principles of nature's operations and endeavors to adapt his work as fully as possible to conditions as they occur. Such a man will follow most closely the results of a series of tests like those reported in this issue. He does not want anyone to tell him what to do on his farm or when to do it, but he can make most valuable use of a series of accurate reports on what happened year after year as a result of following certain methods of procedure in seed bed preparation for wheat. It is then up to him to draw his own conclusions as to how best to apply the information on his own farm, familiar as he must be with all its conditions and all the limitations under which he may be operating. It would be the height of folly for someone else without this information to attempt to lay down any positive line of procedure.

In reporting experimental results it is our endeavor to give them as accurately and as fully as possible, eliminating all unnecessary detail which would be of no value to the farmer. We also endeavor to assist in interpreting results. The thing to keep in mind constantly in the effort to make farming as scientific as possible is that there can be no "rule of thumb" which can be worked out and applied by the man on the farm. It would be a great saving of gray matter if this could be done, and perhaps disappointment because no amount of experimental work can do this and thus

relieve the farmer from exercising his gray matter is responsible for some of the criticism aimed at experimental work.

In the report referred to on page 6 perhaps the most valuable facts set forth are those showing what happens when wheat is grown in a rotation with other crops. The plots upon which this information is based have been under experimentation for seven years only. For the Central and Western Kansas farmer the tests being conducted from year to year at the Hays Experiment Station can be studied with profit.

BUY WHEAT ON MERITS

Wheat below No. 3 will be bought on its merits from now on, according to a statement just issued by the Kansas City office of the Grain Corporation. The complicated schedule of discounts issued July 10 was not workable and gave just cause for complaint from growers having low grade wheat to sell. As a matter of fact terminal buyers have been buying low-grade wheat strictly on its merits without attempting to follow the published schedule of discounts.

The strong demand for new wheat has been a feature of the market since the new crop began to move. The oft repeated statement that the guaranteed price on wheat would cost the government \$500,000,000 or more has now no foundation in fact. A year ago it might have been considered as a possibility, but now as the wheat situation develops it is more likely that the government will make money on handling wheat instead of losing.

Since wheat is selling in the open market at a premium over the government guarantee, the seller at a local shipping station is facing a possibility of having his grain purchased strictly on the basis of the guaranteed price, thus giving the buyer the advantage of the premium. It has been charged that local buyers have been inclined to follow this practice in fixing the price at their local stations. The campaign now under way in Kansas under the direction of the grain grading officials and the milling experts of our Kansas Experiment Station should help to familiarize growers with our inspection methods and enable them to more accurately estimate the value of the grain they have to sell. The wheat grower will do well to take advantage of every opportunity for learning all he can about marketing methods. Farming is a business and selling the products of the farm to the best advantage is a very important part of farming.

BOARD OF AGRICULTURE REPORT

This year's wheat crop in Kansas will have to drop to second place in our production records. The total production for the state has now been placed by the correspondents of the State Board of Agriculture at 158,999,200 bushels, this estimate being made on the basis of threshing reports and other indications up to July 19. Instead of a record-breaking yield of 229,000,000 bushels, or at the rate of 19.8 bushels to the acre, as was estimated on the basis of conditions June 1, the crop has slumped to 13.7 bushels to the acre. This means an immense loss, if we can say we have lost that which we never had. The decline is most disappointing, even though the total production will be second only to the 180,000,000-bushel crop of 1914. Probably growers have never been so

grievously misled by prospects just preceding harvest as they have been this year. The canvass of June 21 revealed a uniformly favorable situation throughout the state with the exception of some of the bottom-land wheat, and this opinion was the expression of two thousand experienced correspondents, or an average of twenty to the county. These men now say that the expectations of June were not realized principally because the "wheat failed to properly fill." Various reasons for this are given, the principal one being that the abrupt change from the wet, cool weather prevailing through the spring and early summer to the extremely high temperatures of ten days or two weeks before harvest, was responsible. This seems to be confirmed by the fact that wheat in the extreme southeastern counties which matured and was cut before the extremely hot weather, is exceeding in yield the pre-harvest estimates. Cherokee, Labette, Crawford and Wilson counties on the basis of the July report will have average yields per acre of twenty-two, eighteen, nineteen, and seventeen bushels respectively, whereas the June forecast for the same counties was eighteen, seventeen, eighteen, and sixteen bushels. Another reason only second to the one mentioned above, as given by the various correspondents, was a belief that the damage was done by heavy rains washing off the pollen which resulted in imperfect fertilization. These conditions with wet ground, lodging, and rust, were probably all contributing factors, while serious damage from grasshoppers lowered the acre yields in a number of the southwest counties. In fact these pests created such havoc in some fields that the wheat was not harvested, amounting in the aggregate to as much as 5 per cent in Ford County, 4 per cent in Clark, 6 per cent in Finney, 7 per cent in Gray, and 6 per cent in Haskell. Nearly every county reports some wheat as not worth cutting, the total amounting altogether to 4 or 5 per cent of the entire area sown.

Excepting in the northwestern counties where the harvest was not finished at the time of this report, threshing is general throughout the state. It is the opinion of the Board's correspondents that less than 6 per cent of this year's crop will grade as No. 1, that 27 per cent will grade as No. 2, 38 per cent as No. 3, 20.5 per cent as No. 4, 5.6 per cent as No. 5, and 3 per cent as "sample," or no grade. The indications are that wheat will be largely sold direct from the thresher.

REPORT ON CORN

The month of July has been an extremely dry month. In fact at the Topeka station all previous July records for light rainfall will probably be broken. Lack of rainfall through this month has seriously affected the prospects for a good corn crop. Mr. Mohler of the State Board of Agriculture reports the average condition of the state's 4,358,000 acres of growing corn as 79.7, based on 100 as representing a satisfactory condition. This is a gain of 4.3 over the condition reported a month ago. It furnishes some encouragement to refer back to the July condition of corn last year, which was given as 75.6 per cent, and 51.4 per cent in 1917.

Corn conditions are quite variable over the state, says Mr. Mohler in his report. This is probably largely due to the variation in July rainfall of different sections. In the important corn-

growing counties of the northern tier, Republic and Washington report average conditions of 63 and 66 respectively, while the other counties in that tier range from 74 to 88. In Pratt County in the south central part of the state the corn is given an average condition of 91 per cent, while Sheridan in the northwest part of the state has the highest condition, 94, with the counties north and south of it averaging 79 only. At this time the prospects are uniformly better for corn in the section including the counties in the eastern four tiers south of the Kansas River and six or seven counties to the north of the river. The lowest condition, 61, is in Ellsworth County. In fact the soil is too dry in nearly every county of the central third of the state.

It is too early for much of an estimate on the sorghums, either for grain or forage, but the Board's reports indicate that they are making good progress. It is expected that the acreage devoted to these crops is somewhat less than usual this year.

A searching inquiry was made as to the damage to alfalfa by army worms. This resulted in the information that a loss of one cutting for the season is likely to be sustained in some places, that the stands in some fields have been permanently injured, and that limited areas here and there may be plowed up as a consequence.

The pastures of the state are reported to be in excellent condition, and there is plenty of stock water.

TREND OF FARM PRICES

The level of prices paid producers of the United States for the principal crops increased about 1.0 per cent during June; in the past ten years the price level decreased about 0.4 per cent during June. On July 1 the index figure of prices was about 13.7 per cent higher than a year ago, 7.0 per cent higher than two years ago, and 84.0 per cent higher than the average of the past ten years on July 1.

The prices of meat animals—hogs, cattle, sheep, and chickens—to producers of the United States decreased 2.4 per cent from May 15 to June 15; in the past nine years prices decreased in like period 0.7 per cent. On June 15 the index figure of prices for these meat animals was about 10.0 per cent higher than a year ago, 27.3 per cent higher than two years ago, and 83.1 per cent higher than the average of the past nine years on June 15.

We note from press reports that a controversy is on as to whether the governor or the junior senator from Kansas is the power behind the throne in the movement to insure fair grading of wheat in the local shipping stations of Kansas. It has been evident from the amount of printers' ink being used in various publications in telling what is being done that someone is very much concerned in having the farmers know that a great fight is being made to give them a square deal. To a man up a tree it looks as though the telling of who is doing it is being given the center of the stage.

Entries are now being received for the 1919-20 American Egg Laying Contest conducted by the American Poultry School at Leavenworth, which will start November 1. All entries must be in by October first and the pullets must be received by October 15 the 20. The earlier entries are made the better.

CRUSADE AGAINST SCRUB SIRE

Wisconsin Sets Pace in Better Bull Campaign

By F. L. THOMSEN

PRACTICALLY every stock raiser and dairyman in the country is familiar with Wisconsin's great "Better Bull Drive" to eliminate the scrub bulls from the state. The success of this movement is assured. Great effort has been expended in carrying on the campaign, but the results have justified such outlay a hundred-fold. Nearly every breeder and farmer of consequence in the dairy state has been and still is actively backing the Wisconsin Livestock Breeders' Association and its co-operating forces in their "Better Bull Boosting." And the slogan "Wisconsin—Bigger and Better," as a result of better bulls, has been more than justified in the light of the benefit to the state through the enormous improvement in its livestock industry.

All Forces Co-operating

Since the active inauguration of the campaign in the winter of 1918-1919 countless hundreds of scrub bulls have been replaced by purebred sires. Purebred bull sales, enthusiastic meetings, press campaigns, posters, personal solicitation and any number of other forces have been utilized to drive home the value of the purebred sire, and the importance of getting rid of the scrub bull at once. Banks and commercial houses have voluntarily given their aid; county agents have made the campaign their main project; breed associations and other farm organizations have worked untiringly for it.

The campaign has called forth distinct words of approbation from such men as Secretary Houston of the Department of Agriculture, S. M. Babcock, inventor of the Babcock milk test and others. Many other men prominent in agriculture, and especially livestock circles, have expressed their approval of the movement.

Practically every member of the state legislature has voiced a favorable opinion regarding it. In fact, to such amazing proportions did the drive grow that it is now generally conceded to be one of the biggest movements which the agricultural interests of Wisconsin have ever witnessed. It has spread to other states, until now Nebraska, Delaware, and several other states are carrying on similar campaigns. A person of authority in the United States Department of Agriculture has recently suggested the possibility of even a nation-wide campaign along similar lines.

A census taken in nearly every county in Wisconsin disclosed the startling fact that at the beginning of the drive only one-third of the herd sires in the state were purebred. If such a condition is true in Wisconsin, which prides herself on being queen of the dairy states, what can it be in others less addicted to this kind of agriculture?

Better Bulls for Kansas

The livestock industry, while of great importance in Kansas, does not assume the dominating position which it does in Wisconsin. It is for this reason that a campaign, such as that carried on in that state would probably not meet with the same results. But this fact should not at all preclude the possibility of "Better Bulls" for Kansas. The benefits of an increased use of purebred sires in the state are apparent to any one who will give any thought to the subject.

"The sire is more than half the herd"—is a thought often expressed, and even this probably does not do full justice to the situation. To come right down to facts, it may safely be said that no livestock man ever made a real success with the use of a scrub bull. Figures in plenty have been brought to light which furnish striking demonstrations of the great part played by the sire in improving the quality of the herd. Such examples are to be found in every community. And "Better Bulls," besides increasing production of milk and beef,

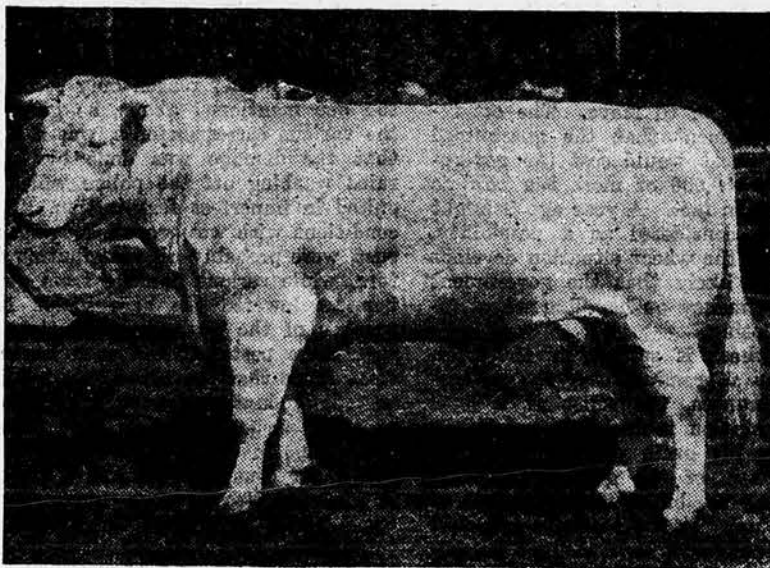
are a great factor in improving farm conditions. "Prosperity follows the purebred sire."

The following extracts from the press of Wisconsin and elsewhere show the enthusiastic support given to the "Better Bull" crusade:

The Wisconsin purebred bull campaign is meeting with unusual success. It has not only stimulated a deeper interest in better dairy blood throughout this state, but the work is being taken up in several other states. All the county agents in Wisconsin are engaged in securing information regarding the number of grade and scrub bulls in their counties and leading the farmers to appreciate the necessity of selecting purebred bulls.

No campaign has come to Wisconsin in recent years that is going to mean more to her dairy interests than the purebred bull campaign, for the moment a farmer secures a purebred animal he takes a greater interest in his work, he cares for his herd better, and provides it with better rations. It is not alone the blood of the bull which brings better results, but he creates a deeper interest in the breeding of cattle. He is a great educator.—Hoard's Dairyman.

E. B. Reid, Chief of Division of Pub-



A KANSAS HERD BULL—WINNER OF CHAMPIONSHIP AT TOPEKA FREE FAIR, 1916

lications of the United States Department of Agriculture, recently visited the state capital of Wisconsin for the purpose of becoming familiar with the methods used by the Badger state breeders in "Boosting Better Bulls."

According to Mr. Reid, the Department officials are considering a similar campaign of national scope. While Wisconsin's aim of becoming 100 percent purebred in the matter of sires is considered a little too "lofty" for the country as a whole, it is thought that a national better bull drive would have an important influence upon the live stock industry of the country.

If attempted, the drive will in reality be localized in character, the states being kept in touch with the work going on in other sections by the department at Washington.

It is felt that the advantages of using a purebred sire are so numerous and plainly evident, that it is simply a matter of bringing this to the attention of the farmers of the nation in a forceful and realistic manner to have them change over to the purebred bull. The Federal authorities regard Wisconsin's Better Bull Drive as a distinct success.

"The bred-for-production purebred bull has a good and authentic record behind him; the grade has nothing but his tail."

That is what H. F. Judkins says in a recent issue of the Rural New Yorker.

Purebred bull enthusiasts in this country will agree with him.

Just because a purebred sire will make a farmer more money isn't the only reason that he should get rid of his scrub or grade bull. Mr. Judkins takes into account the social life of old Bossie.

"Cows are known by the 'company' they keep," he says. "More than that, every calf has a right to be well born, and the use of a grade bull is an infringement on this right."

There is no luxury tax on being "toney" in the cattle world. The cost of keep is no greater for a purebred than for a grade or scrub bull.

What has your bull behind him?

The banks of Wisconsin are said to be among the leaders in supporting local projects. Several bankers of the state have been the first to organize certain lines of community work, and nearly all are lending their active support to measures affecting the interests of their surrounding country.

The Better Bull Drive now on in Wisconsin is meeting with the hearty support of the bankers. In Barron county one bank has even gone so far as to engage a special representative to help rid its township of scrub sires.

Banks all over the state are assisting

found to have but 26 per cent of purebred bulls on its farms; other localities not open to the suspicion of degeneracy in an age of uplift and improvement made a similarly discreditable showing when the bull census was compiled. Everywhere the trail of the scrub was evident; Wisconsin, the Mecca of live stock pilgrimages from less enterprising states, was found to be tarred with the same stick as Arkansas and Florida. When the census had been compiled a series of disc diagrams was prepared at Madison, showing in many cases an insignificant segment representing the purebred element in many counties. Then Wisconsin got busy, starting a campaign for the elimination of scrubs and grades that soon assumed state-wide activity, and although but six months have elapsed since launching, the crusade has assumed national scope.—Breeders' Gazette.

A little group of assemblymen (Wisconsin) had gathered after adjournment and were discussing the Better Bull Drive. They were all chuckling over an incident related by one of the members when S. R. Webster of Dodge county spoke up more seriously. This veteran law maker got his first purebred bull in 1872, and has used one ever since, so his opinion on such a matter was given the attention it deserved.

"It will undoubtedly be a good thing for the state if we can get rid of all the scrub bulls—and cows, too, for that matter," declared Mr. Webster. "But I just happened to think of a little matter which illustrates some of the finer points of the question not often considered."

"There is a man in my county who could not be persuaded to get a purebred bull. The farm became run down and he gradually fell behind his neighbors. Finally, his sons, grown men by that time, threatened to leave for the city unless he replaced the scrub bull with a real good purebred sire. He let them get it, and believe me, they got a winner. The Old Man was hot when they told him the price they had paid but just the same the bull stayed and so did the boys. The whole outfit is going fine now."

"Anyway you look at it, the bull was the cause of the change because without him the boys would never have had the interest to stay on the farm."

Bred-for-production bulls continue to replace scrubs. Rusk county is realizing the value of its purebred sires. The demand for grade stock has grown to astonishing proportions and has brought about an inter-county association to promote the sale of livestock. The organization will seek to help supply the demand for grade cows and heifers from herds headed by good purebred bulls.

Rusk county farmers are replacing their scrub bulls with bred-for-production purebreds, and the Better Wisconsin Campaign is meeting with great success here as elsewhere.

The assessors of Dunn county passed a resolution at their annual meeting favoring the exemption of purebred herd sires from assessment for taxation.

The sponsors of the resolution argue that because the live stock interests of the state will be greatly improved thereby, and other benefits will accrue, the purebred bulls should be relieved from assessment.

A copy of the resolution has been sent to the representatives of the county in the state Assembly and Senate with the request that the matter be acted upon at this session of the legislature.

Farmers throughout the country are in favor of the move. It also means that the days of the scrub and grade sire are numbered.

"Well, Dad, I think we'll get a purebred bull calf next week. I want to show it at Stevens Point." This is what a wide awake youngster said to his father one day on a Portage county farm.

But the farmer was not quite ready to give over the control of his farm, for

(Continued on Page Nine)

FICTITIOUS SALE PRICES

Some Dangerous Tendencies in Breeding Business Pointed Out

UNDER the heading "Time for an Inventory" the editor of the Hereford Journal in the July 1 issue fearlessly points out a dangerous trend in public sale practices in these days of high-priced pure-bred live stock. The evil attacked is not confined by any means to a single breed or class of pure-bred stock. We quote this editorial in full.

"There will be just a little in-between period in our public-sale season in the next few weeks, only two or three auctions being scheduled until after Sept. 1. This would be a good time to take a sort of inventory of our public-sale system, and even of our own personal sale methods, and discover whether or not we have been conducting our sales along lines that should bring best results.

"A good many evils have worked themselves into the auction system without which the industry would be much better off. One of these, and in some respects the most harmful, is the system of credits between breeders that has been permitted to grow beyond the limit of sound business judgment. There is only one good sound financial basis for purebred livestock auctions, and that is a cash basis. Whether consciously or not, the bidder at an auction sale who knows that he can give an unsecured note in payment for his purchases oftentimes is induced or persuaded to bid more than an animal's real value. He may be perfectly honest in his intentions and also may be perfectly able to meet his obligations—and again he may not. But in any case he has furnished competition for the cash buyer that is at least just a little unfair. Few buyers will resist the temptation to overbuy when they are not required to pay cash. It is a deceptive and deluding proposition all the way through and works harm to everyone along the line. The note comes due, perhaps half a dozen similar notes, and our first buyer calls an auction of his own. Our first seller and all the six others are there to protect their interests. The result is that in their eagerness to "buy out" their notes otherwise by this time doubtful, they furnish unfair competition for one another—and again the cash buyer suffers. Just how and where the line should be drawn between cash and credit is hard to say, but that it should be drawn—and drawn tightly—there is no question. One net result of such a sale is a high average, and the news goes out telling of the \$1,000 or \$1,500 sale—and no one better than the banker knows how very little of the total of \$60,000 or more was "money in the bank." The news of the great sale is read by less-informed breeders, and their ideas of values are unfairly and unwisely influenced. It's bad business, and for the good of the industry and of Hereford breeders individually, both buyers and sellers, it ought to be stopped. The best way to buy "on time" is for the buyer to arrange a credit at his home bank where he is better known. He will be asked perhaps for good security—for the banker never permits himself to get into such a position that he must "buy out" his loans and bid against other creditors in doing so. Let's start the fall sale season on a cash basis and keep it there—and as a result either we'll have more money in the bank or we'll know our cattle are in our own barns and on our own pastures.

"There is one more evil in connection with our public sales that must be eliminated if we are to hold the pace that has been set, and that is in the growing temptation to sell animals before the auction and then put them through the salering, with or without "phony" bidders as accomplices to set a high auction price. The rivalry among breeders for high average and high top figures is well enough if the sales are honestly conducted, but these evils ought not to be

permitted. The individual breeder who yields to these temptations is harmed beyond measure, and in time he will find it out. It would be bad enough if the results extended no further; but the entire industry is being made to suffer because of a few offenders. The public is not blind, nor can it be fooled forever. A time of reckoning will come, if such practices are not stopped. Let us start the fall sale season with clean hands—and keep them clean. The breed will be benefited if we do—and perhaps mortally harmed if we do not. There is every good, sound, safe, financial, moral and legal reason against some of the methods that have obtained to some degree at least in the past. Why should a great, honest, profitable, honorable industry have to suffer for the failings of a few who are weak and unable to stand before these temptations to sharp practice—and worse? Why must the Hereford breed bear within itself an evil that in the end may prove disastrous? If you believe in honest methods for yourself and for others, speak out and say so, and let your auctions speak even louder. The Hereford industry is on a solid foundation and does not need fictitious sales, manipulated averages and other doubtful methods to hold its place. If individual breeders who may have been guilty of these things cannot be induced to clean up their sales, it is up to the

you of my appreciation of the keen editorial anent the dangerous trend of present-day auction-sale practices. There is no use talking: A prosperity built upon bubbles cannot last forever, no matter how carefully the bubbles are made."

"The secretary of a state Hereford breeders' association writes: 'Your editorial in the last issue regarding fictitious prices and manipulated averages in public sales is a timely one. These practices must stop or the cattle-buying public is going to lose confidence in the Hereford breed. The breeder who by means of fictitious prices, makes a high sale average must maintain this average in future sales or one of three things will happen: The public will believe that his cattle are deteriorating in quality, that the Hereford breed is losing prestige, or that his previous averages were made by means of manipulating prices. For the public to get any such ideas in regard to any man engaged in the Hereford breeding business or in regard to the breed will be detrimental to the breed and to the business of every man engaged in the Hereford breeding industry. You said something in that editorial. Say some more of it. It sounds good to the men who have the interests of the Hereford breed at heart.'

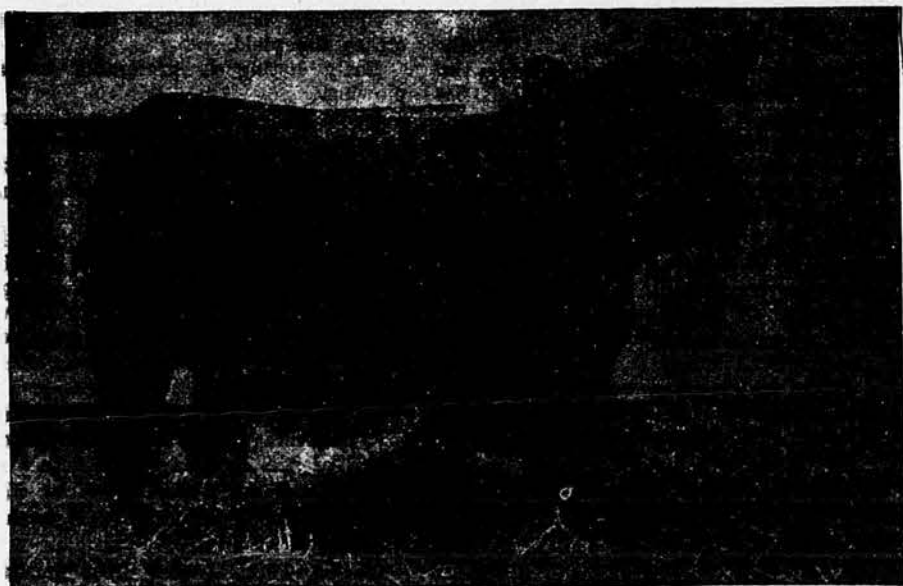
"The editor of one of the most influential agricultural and livestock papers in the country writes: 'I have read your

times of prosperity, as a study of the history of the country will show, and, when continued long enough, have invariably been followed by a shrinkage of values that has resulted in heavy losses. The continuance of this practice of selling animals before a sale at one price and then running them through the salering at a higher price will eventually have the same result. It is generally recognized that this has been done. There isn't a breeder in the country who has kept in close touch with the public-sale business of the past two or three years who is not satisfied that it has been done. The effect has been to call into question the legitimacy of every sale reported at a high figure. Even reports of bona fide sales are received with a lifting of the eyebrows and a shrugging of the shoulders. It is easy to foresee what the eventual result will be as far as the purebred livestock business is concerned. There will be a less of confidence, and men who value their reputations for business integrity will turn to other lines of endeavor.

"There will never be a better time to quit this sort of thing than right now. The Hereford breed does not need any artificial boosting. What it needs is legitimate advertising. The high position it occupies in the estimation of the beef producers of the country is not the result of fictitious prices or manipulated public-sale averages. It is due to the intrinsic merit of the breed. It is due to the fact that the Hereford has made good on the range, on the farm and in the feedlot. It is due to the fact that cattle growers and cattle feeders have found by experience that they can make money on Herefords under the same conditions under which they lose money on cattle of other breeds. What the Hereford breed needs is to have these facts brought to the attention of more cattle growers and cattle feeders. The Herefords do not need exploiting; they need advertising. Above all, it is important that the Hereford breeding business be conducted on a high plane of business integrity so that the merits of the breed shall not be made to suffer because of lack of confidence in the men who stand sponsor for it.

"Many conservative breeders believe that, harmful as this practice of reporting sales at fictitious prices must eventually prove to be the breed, its greatest danger is to be feared from the reckless use of credit in buying cattle. A study of the financial history of the country will show that every panic has been the result of the abuse of credit. Men have bought beyond their means, depending upon being able to meet their obligations by selling at a profit. There comes a time when this expansion of credit reaches its limit, when some man is not able to sell at a profit and therefore is not able to meet his obligations. Because he cannot meet his obligations the men to whom he is obligated cannot meet theirs. It is an endless chain, and the snapping of one link affects all the rest. When everything is on the boom is a good time to practice conservatism. The old river captain's advice to the new pilot to 'keep her nose close to the shore,' is good advice in times like these."

Have you grasped the international significance of the League of Red Cross Societies? For any who may be slow to see the value of such a league because they cannot understand how it can benefit America particularly, here's a concrete illustration: The American Red Cross in devising means for meeting domestic welfare problems will have the splendid counsel of Professor Roux, successor to Pasteur. Isn't that worth while? France will have the valued advice of Dr. Welch, of our own Johns Hopkins. Get the idea?



BLACHCAP MISCHIEF, BOUGHT IN AN IOWA SALE FOR \$3,000 BY A KANSAS BREEDER

rank and file of the honest Hereford breeders to attend to the cleaning up—and they can be depended upon eventually to do it.

"The questions of guarantees, of correctness of printed catalogues, of false advertising, and perhaps others, always suggest themselves in connection with any discussion of the public-sale system, but these lesser evils can wait until the more flagrant faults have been corrected."

It is encouraging to note that the truth of the dangerous tendencies pointed out was recognized by some of the leading breeders, who wrote commending the stand taken as it is set forth in the following editorial in the July 15 issue of the same publication.

"The editorial in the July 1 issue of The Hereford Journal entitled 'Time for an Inventory' has elicited many comments from Hereford breeders. Without exception they have endorsed the position taken by The Journal relative to certain harmful practices that have come into vogue in connection with the public sale business. A director of the Hereford Association writes: 'Allow me to congratulate you upon your editorial on Hereford sale conditions. I hope it will help to correct some of the evils that are well known to exist.' A well known Texas breeder writes: 'I want to assure

editorial in the July 1 issue of The Hereford Journal on 'Time for an Inventory' very carefully. I admire your good judgment and also your nerve in publishing this. You are right and have put the case fairly, also in a way which leaves no chance for quibbling.'

"These and many similar comments upon the editorial in question show that the breeders and others who have the interests of the purebred livestock industry at heart have been noting the tendency toward practices that are harmful to that industry. These practices have been by no means confined to the Hereford business. They prevail in connection with the traffic in other breeds of cattle and in connection with the purebred swine business, as is evidenced by the fact that they have been the subject of comment in numerous agricultural and livestock publications. Nor, for that matter, are these evils confined to the purebred livestock business. They are of a kind with the real-estate 'booms' that have cursed nearly every city at some one period or more in its history, when paper sales were made in order to put fictitious values upon property. They are of a kind with the practices of the stock jobbers in boosting the prices of stocks by means of 'wash' sales. These practices grow up in many industries in

ITEMS FOR WHEAT FARMER

Special Points of Interest on Different Phases of Wheat Production

AS YET there is no variety of wheat known to be rust proof, but J. T. Groves of the United States Bureau of Plant Industry who has been carefully investigating the rust damage in the chief wheat-producing sections of Kansas, says he finds Kanred wheat resists the rust better than any other wheat now being grown. The Experiment Station is working on this problem of developing disease-proof strains, and we may have a wheat sometime which will successfully resist rust.

Considerably more than the usual amount of damage was done by rust this year. The infection was general, appearing about the same time in practically all the fields affected. Mr. Groves suggests that the rust spores wintered in the grassy roadsides, since the edge of the fields were found to be more heavily infected than the parts farther in. He also states that barberry plants can hardly be held responsible for the dissemination of the rust spores in Kansas. In the northern wheat states the guilt of the barberry has been firmly established. Surveys in the state have left no doubt that the rust spores breed by the million on the barberry plant. Practically all of eastern and central Kansas has been surveyed for barberry, and out of 2,600 bushes found only ninety-eight, or 3.7 per cent were infected with the rust. This is sufficient evidence that the barberry should receive but little if any of the blame for the wide-spread development of rust which struck Kansas late in May and early in June. The early-maturing wheat, wheat planted in the lowlands, soft wheat, and volunteer wheat along the roadsides were found most heavily infected. Growers of Kanred will be pleased to learn that this variety has shown so much resistance to rust.

White Wheat Grub Control

Considerable damage was done in some sections of Kansas last spring by the white wheat grub. Just before the harvest began W. A. Boys, county agent of Sumner county, in company with E. G. Kelly, state extension entomologist, visited some of the badly infested fields in that county. They found the adult beetles of the grub very numerous in these fields. The females were depositing their eggs in the soil at the time of their visit. If these same fields are seeded to wheat this fall, the grub will be there in large numbers to damage the crop next spring. The remedy is to plant these fields to some spring rowed crop next year. This deprives the grub of its natural food and it will be effectively controlled. Mr. Boys refers to demonstrations made on several farms last spring which prove the effectiveness of this method of control. If you had a field of wheat badly infested by these white grubs, it will be far safer to carry it over for some spring crop than to seed it to wheat again this fall. In fact rotation of crops is a remedy which helps to keep in control many injurious insects.

Value of Low Grade Wheat

Wheat buyers licensed by the United States Grain Corporation must follow federal grades as closely as possible. The regulations require that grades below No. 3 must be bought on their merits at prices that will reflect their commercial value as compared with No. 1. This is what the Grain Corporation has undertaken to do in guiding and regulating the buyers of wheat to whom it issues licenses. The grades No. 1, No. 2, and No. 3 can be definitely established under the federal grain grading rules. Grade 3 is penalized seven cents a bushel and grade 2, three cents a bushel as compared with the basic price of No. 1 wheat. In buying sample grades, or wheat falling below No. 3, many complications arise, and it has seemed to grain buyers gen-

erally that the publication of the elaborate schedule of discounts to be followed in buying the lower grades makes the matter even more complicated, and in some instances might enable a buyer to profit at the expense of the grower by certain manipulations and still follow the letter of the schedule. The local buyer can be expected to play safe and protect himself.

The individual farmer marketing wheat has had very little protection in the past in the matter of obtaining fair grades. The co-operation which is to be brought about by the joint action of the State Grain Inspection Department, the Federal Department of Agriculture and the Agricultural College Milling Department has for its purpose the insuring of fair grades to the producer of wheat who must sell largely to the local buyer.

Plans have already been made for putting a force of inspectors into the field, and milling tests of the different types of wheat will be made at the experimental mill at Manhattan. The results of these tests will give positive information as to the necessary spread to reflect the commercial value of the different types and grades as compared with No. 1, the basic grade from which all government guaranteed prices are determined.

Feeding Damaged Wheat

Most wheat growers have at times fed wheat to live stock and know something of its feeding value. This year many are up against the proposition of having wheat of low grade which can only be sold for prices considerably be-

low that paid for good wheat. At the present time we are relieved from the emergency which existed last year making it necessary to save every grain of wheat for human consumption. Under the conditions then existing a man was considered a slacker who would think of feeding wheat to hogs. This year the wheat grower having damaged or low grade wheat can figure on feeding damaged wheat with a clear conscience, if that seems the most profitable method of handling it.

As a rule it is as hog feed that wheat can most conveniently and profitably be used. Whether it will pay or not will depend upon local conditions, and the results of a careful comparison of feed prices and values. Some figures bearing upon the feeding of wheat to hogs have been published by the Missouri Experiment Station. In a series of feeding tests extending over two years, it was found that hogs fed wheat made more rapid gains than did hogs fed corn. In terms of pounds of grain required to produce 100 pounds of gain, the hogs fed wheat made the more economical gains. It required 483 pounds of wheat to produce 100 pounds of gain as compared with 582 pounds of corn under similar conditions.

The addition of tankage to the wheat ration showed a decided advantage during the first part of the feeding trial. For the first seventy-eight days of the test the ration of wheat ten parts and tankage one part produced an average daily gain of 1.55 pounds, while the wheat-alone ration produced only an average daily gain of 1.25 pounds. For this period 424 pounds of the wheat and tankage ration produced 100 pounds of gain while 455 pounds of the wheat ration alone were required for each 100 pounds of gain.

During the last forty-two days of the trial the hogs fed tankage in addition to the wheat again made more rapid gains, 1.53 pounds per head per day as compared with 1.26 pounds. The gain, however, was scarcely economical. For this period it required 543 pounds of wheat alone to produce 100 pounds of gain, or 562 pounds of the wheat and tankage ration.

World Market for Wheat

Wheat is the all-absorbing topic of conversation at the present time and many are perhaps wondering if there can be such a thing as too much wheat. Under the head "Too Much Wheat," a writer in a recent issue of the Saturday Evening Post had the following to say:

"The present prospect is for an American wheat crop of more than a billion bushels—equaling or exceeding the great yield of 1915. The Government has guaranteed a base price of \$2.26 a bushel. The present prospect is that it will be a good investment.

"Roughly speaking, it is worth a billion-dollar premium to know that the United States can raise enough wheat to feed itself and half of Europe. It is a sign to a distracted world that at least one ponderous anchor is holding. About half of Europe, counting by population, is not getting on very well with the spring seeding. It is too busy pulling whiskers and gouging eyes. It has got to settle that tremendous problem of the bourgeoisie before it can go to work—meanwhile depending on some 6,000,000 or 7,000,000 American bourgeoisie in overalls to grubstake it to flour and bacon.

"We cannot see any alarming prospect that there is going to be too much food in the world this year of grace or too much fuel and clothing. And we said a while back, do not begin losing sleep now over that government guaranty. Taking it all around it does not look like a bad investment."

Here is a brief statement from the Department of Agriculture on food con-

Results of Nine Years' Tests

EVIDENCE proving that early plowing and other early seed bed preparation for wheat is an essential factor in getting good yields has been accumulating year by year for the past nine years on the Kansas Experiment Station farm at Manhattan. The ninth consecutive crop has just been harvested and threshed on plots given eleven different methods of seed bed preparation.

Disked at Seeding Time as the only preparation gave an average yield to the acre for the nine-year period of 6.9 bushels.

Plowed in September three inches deep gave an average yield for the nine years of 12.8 bushels to the acre.

Disked in July and plowed seven inches deep in September gave an average yield of 17.8 bushels to the acre for the nine-year period.

Disked in July and plowed seven inches deep in August gave an average yield of 18.3 bushels.

Listed in July and worked down to a seed bed later gave an average yield to the acre of eighteen bushels.

Listed in July and ridges split in August gave an average yield of 17.3 bushels to the acre.

Plowed in July seven inches deep gave an average yield of 20.3 bushels to the acre, the highest of any plot in the test.

Plowed in August seven inches deep gave an average yield of 19.7 bushels to the acre.

Plowed in August seven inches deep and not worked until September gave an average yield of 18.7 bushels to the acre.

Plowed in September seven inches deep gave an average yield of fourteen bushels to the acre.

Plowed Three Inches Deep in July gave an average yield of 17.6 bushels to the acre for the nine-year period.

The work on these plots was done about the middle of each month, and after the plowing or listing enough tillage was given to work the ground to a good seed bed and prevent weed growth unless otherwise stated above. Wheat has been grown continuously on all the plots under the various methods of seed bed preparation. The following conclusions have been drawn from a careful study of the yields for the whole period, including the present year:

The highest yields are produced by

early tillage treatments. It seems to make little difference whether the treatment be plowing or listing in July, or disking in July and plowing in August or September.

Early plowing is preferable to early listing.

Listing in July produces about the same yield as disking in July and plowing in August, or in September.

Splitting listed ridges does not increase the yield.

Early listing is preferable to late plowing.

When fields are cropped continuously to wheat, plowing to a depth of six or seven inches in July gives much better results than plowing to a depth of only three inches in July.

For a period of seven years, including the present crop, tests in wheat seed bed preparation have been made involving a rotation of wheat, corn and oats. Seven consecutive wheat crops have now been harvested from each of the five plots of the test.

Plowed Twelve Inches Deep in July gave an average yield for the seven-year period of 24.8 bushels to the acre.

Plowed Seven Inches Deep in July gave an average yield of 24.8 bushels to the acre.

Plowed Three Inches Deep in July gave an average yield of 25.5 bushels to the acre.

Plowed in August seven inches deep gave an average yield of 24.1 bushels to the acre.

Plowed in September three inches deep gave an average for the seven-year period of nineteen bushels to the acre.

The following conclusions can be drawn from the yields of wheat grown in rotation under the various methods of seed bed preparation indicated above:

Early preparation increases the yield very materially over late preparation.

Early shallow plowing produces as high yields as early deep plowing. (This is at variance with the results obtained in continuous cropping to wheat.)

Rotating the wheat crop increases the yield, whatever the date and depth of plowing, compared with the same methods where the land is cropped continuously to wheat.

By a rotation more profitable yields are obtained because a reduction can be made in the cost of plowing.



ditions in devastated Europe:

"Conditions everywhere are such that there is little hope to have a normal production. With the disturbance in the country, it is found that the people are now flocking in large numbers to the city. In 1914, the city of Budapest had a population of about 800,000, while the population today is more than 2,000,000. The city of Vienna in the past few months has increased in population more than 1,000,000. During normal times the city of Vienna received 900,000 liters of milk daily. At this time this has been reduced to 90,000 liters of milk, which is given by cards to only babies and invalids. The first American flour is reported to have reached Germany within the last few days. This flour has been sold in half-pound lots for 2.14 marks. This would be at the rate of about 51 cents a pound. Other foodstuffs are selling at unusually high prices, all of which indicates that the supply of food is far from meeting the demand."

A good deal has been said about the large quantities of wheat that would be released in Australia, India, and other countries of the southern hemisphere on the return of normal shipping conditions. Reports now come from government officials to the effect that all the surplus wheat in Australia has been purchased and that there is none coming from India and only a little from Argentina. The large amount of wheat reported to have been in Australia is unfit for use, due to its destruction by rats and mice and mold.

The Ohio Farmer comments on the situation as follows:

"Exports of wheat and flour now are double those of a like period in 1918, and so great will the demand from the prostrate countries abroad continue for this cereal that no drop from the minimum of \$2.26 guaranteed by the government is likely in the world market, while a greater price would not be a surprise. The surplus from the 1919 crop will also be small if the figures of the wheat director are correct, for of the crop estimated at 1,200,000,000 bushels, half will be consumed at home and two-thirds of the remainder is already booked for the European nations."

Grow More Rye

On too many farms of the United States rye has been the "Cinderella" among crops, says the author of an article on rye in the 1918 yearbook of the Department of Agriculture. If sown at all, it is likely to be sown late in the fall and on a poorly prepared seedbed. Rye will respond to better treatment with increased yields and more profit, however the crop is used. It should generally be sown earlier in the fall and with better seedbed preparation.

In Kansas it is on the live-stock farms that rye might be more generally grown with profit. It is the most suitable of all the cereals as a pasture crop. It will make considerable fall pasture, and can be grazed well into the winter. It is harder than wheat under this treatment. Rye can be pastured again in the spring, and in some sections after taking the stock off it can be turned under and a profitable crop of corn, kafir, or cane grown on the land. Handled in this way, it adds considerable organic material to the soil, and a good many weeds are killed in the process so that the cultivated crop can be kept clean with less work. The best results will come from pasturing hogs, calves, or sheep, as they do not injure the crop as much by tramping as do cattle or horses. But the crop can be profitably pastured even by the larger animals. When allowed to mature grain, rye can be harvested and used as feed. Rye is being more generally used in this country as a human food also. On farms where any considerable number of hogs are kept, a patch of rye will almost always be found to be a source of profit.

Morris County Testing Cows

Morris County now has a cow testing association of its own. It began independently June 1. Previous to that time Lyon and Morris counties had an association together, there not being

enough men wanting to become members for an independent association in each county. Interest in dairy record work has increased in Morris County and the new association closed its first month's work June 30. The tester is J. Kenneth Muse. Every man in the association has a good pure-bred bull, and all but a few have at least some pure-bred cows.

The following table gives the names and records of the cows in the association which have produced more than forty-five pounds of butter fat or 1,200 pounds of milk during the thirty days ending June 30:

Owner—	Pounds Milk	Per Cent Fat	Pounds Butter
W. D. Houch, H.-A.	1,305	3.1	40.5
W. D. Houch, H.	1,213	3.2	38.78
W. D. Houch, H.	1,239	3.8	58.5
W. D. Houch, G.H.	1,413	3.2	45.22
W. D. Houch, G.H.	1,341	3.1	42.57
G. W. Roll, G.H.	1,656	2.9	48.02
G. W. Roll, G.H.	1,440	3.1	44.83
G. W. Roll, G.H.	1,362	3.2	43.58
J. A. Comp, J.	756	6.1	46.12
J. A. Comp, J.	825	5.63	46.45
F. O. Peterson, H.	1,200	3.9	46.80

NOTE.—H. stands for Holstein; G.H. for Grade Holstein; J. for Jersey, and H.-A., Holstein and Ayrshire cross.

Killing Grasshoppers

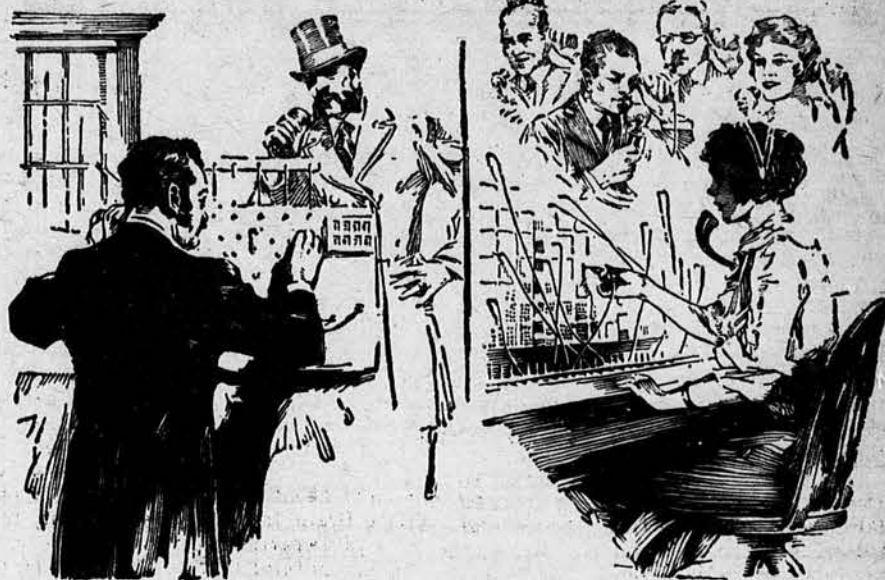
In the grasshopper fight now being waged in Southwest Kansas, two thousand tons of material for poisoned bait has been ordered. This is enough to fill one hundred freight cars, or three average train-loads. To make this poisoned bait for killing the grasshoppers there will have been used forty tons of white arsenic, forty thousand gallons of syrup or molasses, 240,000 lemons, and eight hundred tons of dry bran.

Not since 1913 has there been so much damage done by grasshoppers as this year. Controlling them by the poison method is no experiment and is thoroughly practical. A thousand tons of poison were used in 1913. The county agents of eleven counties in southwestern Kansas, who met in Dodge City with E. G. Kelly and H. H. Nininger of the entomology department of the agricultural college, and Karl Knaus of the county agent's office to canvass the situation, found it most serious in the territory south and west of Larned. Since the previous campaign there has been enacted a grasshopper law which greatly facilitates organized action by the counties. Many of the counties had already organized for poisoning the hoppers at the time of this meeting, and others were taking steps to organize in order that the township trustees might petition the county commissioners to furnish the poison as provided by the law. Six men from the agricultural college have been working in the field assisting the county agents in the organization work and a general poisoning campaign will cover this entire section. Where the poison had already been distributed, the grasshoppers were practically under control.

It hardly seems credible that grasshoppers could be so effectively controlled at so little expense. It has been thoroughly demonstrated, however, that twenty pounds of this poisoned bran mash bait, scattered sparingly over four or five acres will practically wipe out the army of grasshoppers feeding on the crops. The law now in operation does not leave it to the individual initiation of farmers to apply the remedy. When the county is organized and the material furnished to the townships by the county commissioners it becomes the duty of the township trustees to see that it is distributed on every farm infested with the hoppers. In this way it is possible to make a clean sweep. It would seem that the present campaign should so thoroughly clean up the grasshoppers as to greatly lessen the possibility of any damage for some years to come.

A system of sheep farming that is to be continuously successful can not ignore either wool or mutton. In many cases the two products will be worthy of equal consideration. In others either one may be emphasized according to the peculiarities of conditions, management, and marketing.

Keep the hoe working in the garden. More hoe and less hose is a good motto.



Economy Insures Progress

The Bell System has accumulated a reserve of \$340,000,000 to provide the necessary safeguard to the business and to meet those emergencies caused by storm, fire and kindred uncontrollable disasters.

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Kansas Farmer

**READ KANSAS FARMER'S CLASSIFIED
ADVERTISING PAGE FOR READY BARGAINS**

Standing of the Dairy Industry

IT HAS been estimated that seven million people in the United States are directly interested in the dairy industry, says a well known agricultural writer, and all the people are indirectly interested in its success. This great section of agricultural industry serves well the commonwealth, giving strength and stability to the nation, and only asks fair treatment.

The time has come when all interested in the industry should join hands in an educational campaign and show to the world the value of milk and its products. Imitation butter is now appearing on the market in large quantities. The consumption of butterine has greatly increased during the past few years. If this were done with a full knowledge on the part of the consumer as to the true merits of the imitation product, little could be said; but these imitation products are largely consumed by people who do not know that they are getting an imitation. Then there are those who purchase and use imitation butter and milk believing that they are saving money and getting a food which is quite as good as the real product. This shows a lack of knowledge on their part, and the dairy industry should unite and let it be known to all that there is no substitute for butterfat. This has been proven beyond the question of a doubt, and now only needs publicity.

The cream or milk producer who delivers his product in town and returns with imitation butter and milk is inconsistent and working as best he can to undermine his own industry as well as his health. Recently the Dairyman's League, an organization of some sixty thousand producers in the east, requested their members to use genuine butter instead of imitation, calling attention to the fact that they were injuring themselves and destroying their market when they used the imitation product. It seems strange that it would be necessary to call intelligent men's minds to such a matter, yet this is true not only with the milk producer but with the cream producer as well. If the price of butterfat falls to twenty-five or thirty cents by next October, we will hear a great wail go up from the producer, and rightly so; but the man who is using substitutes can only blame himself if such a condition occurs.

All the people are interested in the success of this great commerce, for it is the industry which furnishes the greatest of all human foods. It rears the children, builds up a strong boy, and caters to our most vital needs. It maintains the fertility of the land, stimulates big crops and cheaper living; it consumes our raw materials and turns them into the finest of condensed foods. It gives the young as well as the old employment, and makes for thrift and frugality. A land where dairying prospers is always a good land. The bank deposits can be measured by the number of cows kept in a country. It is the exponent of civilized, prosperous rural advancement. It should receive our endorsement and support.

Cool Milk Properly

Cooling milk properly and immediately after it has been drawn from the cow is a problem which must receive the attention of all milk producers. It is a well established fact that bacteria grow and multiply much more slowly in cold than in warm milk. Freshly drawn milk has a temperature a little above 90 degrees F, which is a very favorable temperature for rapid bacterial development.

Keeping down the bacterial count in milk is a question of preventing the introduction of bacteria into the milk, and of checking their growth or destroying them when they are present. To produce milk reasonably free from bacteria is simply a matter of cleanliness; but even with the greatest precaution some bacteria get into the milk, and further efforts must be made to pre-

vent their rapid multiplication. The practical way to accomplish this is by properly cooling the milk.

The milk may be cooled by setting the cans in a tank of ice water or a specially constructed cooling apparatus may be employed. Between these extremes are numerous coolers adaptable to all conditions.

The important thing is to cool the milk at once to a temperature as near freezing as circumstances will permit. It should at least be cooled to 50 degrees F, but a lower temperature is much more desirable.

The cooling apparatus must be absolutely clean. If it is not clean, the results of running milk over it will be disappointing.

The original idea of using a cooler or aerator, as they are sometimes called, was that it improved the keeping quality of the milk by getting rid of the odors which are frequently present in unclean milk. A better understanding of bacteriology has shown that the benefits are a result of lowering the temperature of the milk.

The quickest and most economical method of cooling is to run the milk, in a thin layer, over the surface of a receptacle containing cold water, or through which cold water is flowing. Sometimes cans of milk are set in a tank in which ice water is placed or through which cold water flows. This is a slow method, but better than nothing. The cooling may be hastened by occasionally stirring the milk. The ice water is much to be preferred, as the ordinary well water is not sufficiently cool to cool the milk to fifty degrees F, or lower. Simply cooling the fresh milk is not sufficient—it must be kept cold until used.

Demand for Butter in Japan

Although the Japanese consume small quantities of dairy products as compared with the consumption in western countries, yet the total imports of butter in normal times are considerable. Heretofore the dairy industry has been relatively unimportant both as regards the number of milk cows and the amount of product used. In 1917 there were only 45,739 head and the average production was 353 gallons per milk cow over 2 years old. The industry is being developed, however, because of the difficulties encountered in obtaining dairy supplies during the war. The average yearly yield of dairy cows in the United States in 1917, was estimated at 576 gallons and at 598 gallons in 1918. These estimates are applicable to 80 per cent of all dairy cows in this country.

Previous to 1914, Australia furnished considerably more than half of the natural butter imported by Japan, while the dairy countries of Europe (France, Netherlands, Austria-Hungary, Germany, and Denmark) supplied practically all of the artificial butter as well as large quantities of natural butter. Besides these countries only Siberia regularly furnished any considerable amounts, leading the Netherlands in the amount of natural butter sent to Japan in 1915 and 1916.

With the outbreak of the war the imports of butter by Japan fell off and in 1918 amounted to less than 3 per cent of the pre-war purchases. In 1917, the latest year for which detailed statistics are available, Australia still held the leading position in this trade, followed by the Netherlands. The amount of butter exported to Japan by the United States either before or after the outbreak of the war, as compared with the exports to other countries indicates that the trade with Japan so far is relatively small. The demand for butter in Japan has been increasing and in 1918 it retailed for as high as 80 cents per pound. At present the retail price is reported to be 66 cents per pound. The import duty on natural butter is \$1.0109 per pound and on artificial butter \$1.1009 per pound.—U. S. Dept. Agriculture.

Campaign Against Scrub Sire

(Continued from Page Four)

The young man was not yet fourteen years of age. He compromised on a dollar calf. When the boy later won high honors with his calf at the show, the father was so pleased that he invested in a good pure-bred bull calf and two pure-bred heifers, which was the beginning of what now promises to be a fine herd.

The youngsters of Wisconsin have shown great interest in livestock, as demonstrated by the great success of boys' and girls' calf clubs throughout the state. The Junior Live Stock Exposition to be held in Madison in November promises to be a great incentive to such work.

Members of these clubs are great enthusiasts with regard to Better Bulls, and have been the cause of many a change from a scrub to a pure-bred sire. All these farmers of the coming generation need to hold them on the farm is some interest of this kind.

Five school districts in Grant county and one in both Waukesha and Barron counties have entirely eliminated the grade and scrub bulls. Two miles of roadway in Sheboygan, constituting about all of one school district, has also been freed of the scrub. The township of King in Lincoln county is 100 per cent pure bred but they have only six bulls. There is a race on between one town in Barron county and one in Grant for the honor of being the first real cattle district to oust the grades and scrubs.

And the movement is going on. From all over the state reports continue to come in enthusiastically describing the work and the progress made. The Better Bull drive has served to show once more that when Badger farmers start out to do something, they do it.

Bolshevism vs. Better Bulls

Kansas farmers could very profitably spend a great deal of time and attention on such a subject as "Better Bulls." More and better livestock has long been recognized as a pressing need of almost any community, and Kansas is no different from any others in this respect. In no other way could conditions along these lines be more easily and quickly improved than through a stimulated interest in better bulls. Campaign or no campaign, Kansas livestock men should get right into the movement to "Boost Better Bulls" and "Banish the Scrub." Let the cry of "Better-Bulls" drown out the feeble cries of some poor I. W. W.s and Bolsheviks who have been trying to make their filthy propaganda heard above the general voice of prosperity.

Silage for Beef Making

(Continued from Page One)

g 2.92 pounds and per steer 3.22 pounds. In other words, they point out that, considering weights and costs, better gains can be made with the calves than can be made with two-year-old steers.

The above experiments in the different states are carried through on a straight profit and loss basis, careful watch being taken at all times that every part of feed that went to the steers was properly charged to them at the prices prevailing in that state at that time. These prices, of course, will vary in different states and in different localities in the same state.

Pounds of Beef to Acre

There is another angle to this: How many pounds of beef were produced per acre? We have an idea that the average farmer is more interested in these figures than any other, and none of the experiment stations have taken the pains to reduce their figures to a "per acre" basis. It is rather hard for a layman to do this, but it seems to me fair to take the broad proposition that a field of corn that produces forty bushels of corn will produce ten tons of silage. Of course these figures will vary with different localities and different years, but, making one year with another, the above estimate is probably fair. I know of many farmers who have secured twelve to fifteen tons or even more silage per

acre. In fact, some of the experiment stations themselves reported the yield as high as twenty to twenty-two tons per acre. But assuming, as above stated, that the yield of silage be ten tons to the acre, then the following figures can be worked out: In Wisconsin a production of 235 pounds of beef to the acre of land in the corn-fed lot and 499 pounds in the silage-fed lot; in Missouri 376 pounds of gain to the acre of land where corn was fed and 654 pounds where silage was fed heavily; in Iowa 256 pounds of gain to the acre in the corn lot, and 746 in the silage lot, and in Kansas 294 pounds of gain to the acre in the corn lot and 648 in the silage lot.

The above figures mean, in composite, that the cattle that were fed corn—in fact what is commonly called the "corn belt" ration—show that the production of beef per acre of land is 290 pounds. A composite or average of the silage-fed lots for the four states will show a production of 637 pounds of beef per acre. In other words, viewing the matter from a "per acre" basis, which we have an idea is the way the average cattle fattener would prefer to view it, by the use of a heavy silage ration the four experiment stations mentioned above have been able to produce over twice as many pounds of beef per acre of land. These figures mean that on the average farm that will grow corn, cane or kafir, it is possible to double the production of beef per acre of land by the intensive use of silage, according to the figures that prevail at the present time. In other words, they are not taken from experiment station records of some years ago, but they are taken from experiment station records for 1919.

The experiment stations have done a wonderful work and deserve the greatest commendation for the clear manner in which they have presented the various feeding problems. After all, they have recognized that they are the servants of the public and that they are doing a work laid out for them to do. That is, they are doing a class of experimental work that the average farmer would not be able to undertake, and they are doing it in a careful, scientific and authoritative manner.

Farm Home Sewage Disposal

The two greatest conveniences of the home are, first, a system of running water, and, second, a sanitary method of disposing of sewage without an unsightly and filthy mess at the back door. A sewage disposal system changes the farm from an unhealthy to a healthy and pleasant place to live—a place where the disease-breeding fly will cease to flourish, because its food supply will have been taken away. It has been well said that man is his own worst enemy, and this point is emphasized by a survey of the sanitary conditions on the average farm. Should the average farmer's city brother attempt to dispose of human waste and other sewage as it is disposed of on the farm, he would have the health officer waiting on him in a hurry. The more crowded conditions in the cities have made such practices impossible, because they are a detriment to the health and comfort of others. Such practices on the farm are just as great a menace although they are not felt so much because of the less crowded conditions; still the chances are there.

A method of sewage disposal which will appeal to the farmer of today must meet certain requirements in order to be popular. A few of these are: It should be easily installed, efficient in operation, not too costly, and one which requires little attention after installed.

When these points are all considered, the sewage disposal system best adapted to the country home is the septic tank system which is followed by either trickling filters or subsurface disposal. The installation and upkeep of such a system does not cost much and adds greatly to the comfort and well-being of the family. There is no good reason why the farm home should be without a simple disposal plant.

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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.

Some Pickling Recipes

THE following recipes for the preparation of various kinds of pickles have been compiled by the California College of Agriculture. They are designed for home use:

Cucumber Dill Pickles

Wash the cucumbers. Prepare a crock, keg, barrel, or wooden bucket. Do not use metal.

Place a layer of dill plant in the bottom of the container and a small quantity of mixed "dill pickle spices." These can be obtained from a grocery. On these place two or three layers of small cucumbers. Add another layer of dill plant and spices and two or three layers of cucumbers, repeating the alternation of layers until the container is almost full.

Cover with a layer of beet leaves or grape leaves at least an inch thick. Fill and cover with a brine made of one pound of salt, ten quarts of water and two-thirds of a quart of vinegar. Allow to stand until fermentation ceases (three to four weeks). Seal with paraffin.

If large barrels are used, the barrels may be headed up after filling with the cucumbers and spice and then filled with a brine made as above. Leave the bung hole open. When fermentation is over, the barrel may be completely filled with the brine and the bung hole closed. Dill pickles may be kept indefinitely by heating to boiling in the brine in which they are made and sealing boiling hot in glass jars.

Cucumber Pickles in Vinegar

Choose small cucumbers. Prepare a brine of two pounds of salt per gallon of water. Place the cucumbers in this and keep them submerged with a wooden float. Store in this brine for about four weeks. Fermentation will take place and a scum will form. If the pickles become soft, add more salt.

After about four weeks remove the cucumbers and heat them in a large amount of water to the simmering point for about twenty minutes. Discard this water; cover with fresh water. Heat to simmering point, remove from the stove and let stand about two hours to soak out the excess salt. If the pickles tend to be soft or "flabby," add a tablespoon of alum per gallon of water. This will harden them and is not injurious to health.

Rinse in cold water. Drain. Store in strong cider vinegar of good quality until ready for use. If at any time the pickles soften or mold, place them in fresh vinegar. Pack in wide-mouth corked bottles or in jars with glass tops. Do not use metal.

Onion, Tomato and Cauliflower

Place the vegetable in a brine of three and one-half pounds of salt per gallon of water. Store for four to six weeks or longer, keeping them submerged in the brine.

Remove and treat as directed for cucumbers in preceding recipe.

Tomato Ketchup

Select ripe tomatoes of a deep red color. Cook them thoroughly and put through a colander or sieve to remove seeds and skins. For each gallon of the pulp so obtained use:

- 2 tablespoons salt
- 4 tablespoons sugar
- 1 tablespoon each of powdered mustard, whole cloves, allspice, cinnamon, and pepper
- 2 small red peppers cut fine
- 1 pint of vinegar—preferably cider vinegar

Tie the whole spices in a bag of cheesecloth and add the other ingredients except the vinegar. The paprika gives

flavor and a bright red color, but may be omitted.

Cook until almost thick enough—usually one and one-half hours—and add the vinegar. Continue cooking till as thick as desired. Pour hot into scalded bottles and cork with corks sterilized in boiling water ten minutes. The corks are not pressed in at first but left loosely in the necks of the bottles. Put the bottles upright in a wash boiler sterilizer with hot water half way up the bottles. Heat water to boiling and boil one hour with cover on the boiler. Drive corks into the bottles. Allow to cool. Seal with paraffin or wax.

Sweet Vegetable Pickles

Prepare the vegetables as directed in the recipes for cucumber pickles in vinegar and for onion, green tomato and cauliflower pickle to the point where they are ready to be placed in the vinegar. Prick the prepared vegetables through and through in several places. A silver table fork may be used for this purpose. Unless cucumbers are punctured in this way the sweet vinegar will cause shriveling.

Prepare a syrup as follows:

- 4 tablespoons of ground paprika—*not essential but desirable.*
- 3 cups vinegar
- 5 cups sugar (brown preferred)
- 1 tablespoonful each mace, ginger root and whole cloves
- 2 tablespoons stick cinnamon

Boil the vinegar and spices together slowly for about five minutes. Heat the pickles in the spiced vinegar to boiling and boil about ten minutes. Pack boiling hot into glass-top jars and seal.

Sweet Fruit Pickles

If the fruits are not to be peeled, puncture them thoroughly with a silver fork or in some other way to permit the syrup to penetrate without causing shriveling.

Prepare the following syrup:

- 3 pounds sugar
- 2 pints water
- 1 pint vinegar
- 1 tablespoonful ginger root
- 1½ tablespoonfuls whole cloves
- 2 tablespoonfuls stick cinnamon

Place the fruit in the syrup and cook slowly until tender. Soft fruits, such as grapes, require very little cooking.

Allow to stand in the syrup over night. On the next day pour off the liquid and boil down to a heavy syrup. Heat the fruit to boiling in this syrup; pack and seal hot in jars. No further sterilization is necessary.

The Pressure Cooker

The saving in food, fuel, and labor made possible by the pressure cooker is the reason given for its popularity by Miss Frances L. Brown, state leader of home demonstration agents, Kansas State Agricultural College. An increasing number of Kansas women are using the pressure cookers in this year's canning, Miss Brown states, buying not only the smaller sizes, but also the larger hotel sizes.

The pressure cooker is rather expensive, but the saving in effort and fuel compensates for its initial cost in a short time, in her opinion.

When once in action, with steam accumulated to the desired pressure, little heat is required to keep it at that temperature. By the time the second cookerful of material is ready for canning, the first is usually out of the way.

The cooker can also be used to advantage for ordinary cooking. Tough meats, chickens, and vegetables that require long cooking by the usual methods can be cooked to perfection in a short while by its use.

Another reason that the pressure cooker is so popular is that it does not

heat the whole room, the heat being held within the cooker.

As it is a particularly made utensil, the cooker must be carefully handled. With proper care it should last for many years.

Amount of Sugar for Jelly

The amount of sugar to be used in making jelly depends on the amount of pectin in the fruit juice used. A large per cent of pectin calls for a large proportion of sugar. If a small amount of pectin is present less sugar should be used. Too much sugar makes a syrupy jelly. The following table gives about the proportion of juice and sugar for some of the more common fruit juices:

Fruit Juice	Amount of Juice	Amount of Sugar
Grapes—partially ripe	1 cup	¾ to 1 cup
Raspberries	1 cup	¾ to 1 cup
Currents	1 cup	¾ to 1 cup
Blackberries	1 cup	¾ to 1 cup
Tart apples	1 cup	¾ to 1 cup
Crab apples	1 cup	¾ to 1 cup
Cranberries	1 cup	¾ to 1 cup

In making blackberry jelly, one pound of underripe fruit should be used to each three pounds of ripe fruit, as ripe blackberries are lacking in acid.

Heat the sugar in the oven, taking care not to let it brown. Heating the sugar tends to steady the process, and jelly making should be rapid from the time the juice begins to boil until it is done. Bring fruit juice to boiling, skim, and then add the heated sugar, stirring until sugar is dissolved. Boil rapidly in uncovered vessel—to evaporate water—until product flakes from spoon or until it will form two drops from spoon, which have a tendency to flow together.

Dry Cleaning Clothing

Garments which are not washable or which are too delicate to be washed in soap and water may be cleaned by the dry method. In dry cleaning, a solution such as gasoline or benzine, which dissolve fat, is used. Since most of the dirt in clothes is held there by grease, when the fat is dissolved the dirt is removed. Gasoline or benzine is most often used. Other liquids which can be used in dry cleaning are chloroform, carbon tetrachloride, and alcohol. These

cleaners, with the exception of carbon tetrachloride, are inflammable and must be handled away from the flame and near an open window. If these cleaning liquids are kept tightly corked, they do not evaporate. They can be used over and over again if they are allowed to settle after using and are then strained through a cloth. The clean liquid may be bottled for further use. Turpentine and kerosene are seldom much used because each leaves an odor in the garment.

Before the cleaning, the garment must be dry and free from dust. If it is stained badly, the use of a "tampion"—a ball made by tying cotton wadding into a piece of linen or cheesecloth—wet with gasoline or the cleaning liquid used, will help in cleaning.

If there are only spots on the garment, it will not need to be immersed. If the garment is of heavy material, especially woolen, a good way to remove the spots is to lay the garment right side down on the absorbent cleaning pad and apply the gasoline or some other cleaning fluid from the wrong side. This will do away with the gasoline ring which is often formed by the dissolved grease and cleaner as they soak through from the right to the wrong side before being absorbed by the cleaning pad.

Gasoline is the liquid most commonly used in dry cleaning. In using it, pour the gasoline into a vessel large enough so that the garment may be thoroughly immersed. Allow space for handling. Squeeze the fabric or work it up and down, rubbing the stains by hand instead of on a board. If the dish of gasoline is set in warm water the action seems to proceed more quickly. Handle the gasoline away from any fire. Out-of-doors is the safest place.

Some of the prepared benzine soaps on the market may be used in the first wash in gasoline. They act as soap does in water. If they are used, care must be taken to rinse carefully and to follow the directions given on the package of the commercial preparation.

It is often advisable to let the garment soak for an hour or so before rubbing. The soaking lessens the amount of rub-

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ing necessary in cleaning. To dry, the garment hang it outdoors in the shade and the wind.—Circular, Wisconsin College of Agriculture.

Trimming Children's Clothes

The ornamentation of children's clothing should indeed be a simple matter. Nothing is as suitable and attractive as touch of handwork, and this does not necessarily mean the expenditure of as much time as would be used in ironing and embroidery ruffles.

Only the simplest stitches should be used. Children outgrow or wear out their clothes so quickly that a great deal of time spent in embroidering them would be wasted. The following stitches may be used to very good advantage: outline stitch, chain stitch, running

stitch, blanket stitch, feather stitch, lazy daisy stitch, French knots, hemstitching, eyelets, Bermuda fagoting, smocking, couching. Simple designs, including straight lines, dots, geometrical figures, etc., are most suitable.

A Home Newspaper

That women, if they care to do so, can determine the character of the newspapers that they desire to have in their homes, was the statement made by Prof. W. G. Bleyer, director of the University of Wisconsin Course in Journalism, in addressing summer session students at the university last week.

"Since the value of most retail advertising depends on its reaching women as the purchasing agents of the home, every newspaper publisher desires to make his newspaper a home paper," he said. "Unless a newspaper goes into the home and is read by women as home makers, it has little value as an advertising medium."

"It rests with the women of this country, therefore, to decide what kind of a newspaper they want their children to read in the home. By subscribing for or buying a paper, it has truly been said, we are casting a vote for the kind of paper that we want. Every newspaper publisher must give his readers what they want or his paper will be a failure both in circulation and advertising."

"If women, with the ever-increasing sense of their responsibility, will unite and make it evident to publishers that only papers which print wholesome news and advertisements will have their support, it will not be long before every newspaper will be such that it can be read aloud from beginning to end in the family circle. Such a paper will truly be a home newspaper."

Ways of Baking Apples

1. Wash and core apples and stuff with raisins, nuts, and sugar. Bake in slow oven until apples are cooked.

2. Wash and core apples. Fill with sugar, cinnamon and a little butter. Bake. When apples have finished cooking they may be made more attractive for dessert by putting meringue on top of each apple and browning in oven. The meringue is made by adding to the beaten white of one egg, one tablespoon of powdered sugar and one-half teaspoon of lemon juice or one-fourth teaspoon of vanilla.

3. Wash apples. Quarter and core, sprinkle with sugar and cinnamon, add a little water and bake until apples are cooked. These apples may be used to garnish roast meat.

4. Pare and slice four to six apples. Add one-half cup sugar and about one-fourth cup of water. Put in a crock and bake two hours in a slow oven. Let stand until cold. Apples will jell and turn out in a mold.

Canned Baked Apples

Wash and core good, sound, tart baking apples. In the cavities place sugar and a little butter. Pour a little water in the pan and bake until the apples are tender. Pack the baked apples into clean, hot jars. Fill the jars completely with a thin syrup and seal.

Boiled Salad Dressing

1/2 cup sugar
4 tablespoons flour
1 teaspoon celery salt
1 cup milk
Pinch of cayenne
3 eggs, beaten
1 teaspoon mustard
1 teaspoon salt
1/2 cup vinegar
1 tablespoon butter

To beaten eggs add dry ingredients which have been stirred with the milk until smooth. Add butter and vinegar and cook in double boiler until thick. This may be thinned with sweet or sour cream.

SWEET PICKLED PEACHES

1/2 peck peaches
2 pounds brown sugar
1 pint vinegar
A few cloves
1 ounce stick cinnamon

Boil sugar, vinegar and cinnamon twenty minutes. Dip peaches quickly into hot water, then rub off the fur with a towel. Stick each peach with

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three or four cloves. Put into syrup and cook until soft, using a few peaches at a time. Pack the jar and fill to overflowing with the syrup.

Sweet pickled pears are prepared in the same way, using pears in place of peaches.—Michigan Agricultural College.

PLUM CONSERVE

6 pounds plums
2 oranges sliced
1 1/2 pounds large table raisins, seeded
1/2 pound nut meats
3 pounds sugar

Wipe oranges with a damp cloth, cut in quarters, and then cut each quarter in very thin slices, removing all seeds, and let stand in water to cover over night. Cook the plums without water till soft, and press the pulp through a sieve. Cook oranges till peel is tender, add with raisins to the plums and sugar and let cook till the mixture is like marmalade. Add the nuts when the conserve has nearly finished cooking.—Michigan Agricultural College.

For the comforting warmth of the sun that my body embraces,
For the cool of the waters that run through the shadowy places,
For the balm of the breezes that brush my face with their fingers,
For the vesper-hymn of the thrush when the twilight lingers,
For the long breath, the deep breath, the breath of a heart without care,
I will give thanks and adore thee, God of the open air!

—Henry Van Dyke.

Slightly Different

"I don't see anything in this book about moths; it's all about babies," indignantly exclaimed the boy who was interested in studying and collecting moths.

"What is the book?" inquired his mother.

"Advice to Young Mothers," was the reply.

In buying gloves remember that the best silk gloves are economical because of their wearing qualities. Always have gloves fitted in the store. Flaws may appear. Gloves on special sale are often poor and cannot be fitted nor returned. If you buy at these sales, select only standard makes. This applies to other articles of clothing offered on sale as well as to gloves. It is often possible to buy garments out of season, or slightly soiled garments, at a reduction, but be sure you are buying standard makes that are well made and of good wearing qualities. Too often articles on special sale at a low price are of poor workmanship or contain flaws which injure both their appearance and wearing qualities. There is no economy in buying these.

Matting should be cleaned by sweeping with a soft brush or wiping with a slightly dampened cloth. Linoleum, oil-cloth, and cork carpet may be dusted with a dry mop or covered broom or swept with a soft brush. Wash with a cloth wrung dry from soapy water, and

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— OTTAWA —

Business College

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dry thoroughly with a clean cloth. If too much water is used, it gets underneath and gradually rots the covering and the floor.

How to Write War Risk Bureau

The following suggestions are made by the Bureau of War Risk Insurance with a view to facilitating correspondence between the dependents of American soldiers and sailors and the Bureau.

A large number of men having similar names, it is absolutely necessary to give identifying facts when corresponding, to enable the Bureau to locate the records. The records of the Bureau show over 1,200 Smiths, for example, whose first initial is E.

When writing in regard to allotments and allowances the full name of the enlisted man should be given, with his present address, his allotment number or army serial number, the date of his enlistment, his rank and organization in November, 1917, or at enlistment if subsequent to that date, also the full name of the person to whom the allotment is to be paid, his or her relationship to the enlisted man, and address.

In correspondence as to compensation due to death or disability, the following details should always be given: Full name of enlisted man, present address if living, his army serial number, date of enlistment, rank and organization, date of death or discharge from service, and full name and address of beneficiary.

Any correspondence as to insurance should give the full name of the insured, present address, his army serial number, rank and organization when insured, insurance certificate number, date of birth, date of discharge, full name and address of beneficiary.

Letters concerning the payment or non-payment of the allotment or allowance, compensation, or insurance, should be addressed to the Accounting Division of the Bureau of War Risk Insurance, Treasury Department, Washington, D. C. Letters concerning compensation or insurance claims due to death or disability should be addressed to the Compensation and Insurance Claims Division of the Bureau of War Risk Insurance, Treasury Department, Washington, D. C.

FASHION DEPARTMENT



No. 2927—Work Apron and Cap: Cut in four sizes—small, medium, large and extra large. The medium size will require 3 1/2 yards of 36-inch material for the apron, and 1/2 yard for the cap. No. 2754—A Stylish Rock: Cut in four sizes—14, 16, 18 and 20 years. Size 18 requires 4 1/2 yards of 36-inch material. Width of skirt at lower edge is about 1 1/2 yards. No. 2905—Ladies' Corset Cover: Cut in four sizes—small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. The medium size requires 1 1/2 yards of 36-inch material. No. 2490—Child's Rompers: Cut in five sizes—1, 2, 3, 4 and 5 years. Size 4 requires 2 1/2 yards of 36-inch material.



No. 2384-2381—Ladies' Costume: Waist 34 cut in six sizes—34, 36, 38, 40, 42 and 44 inches bust measure. Skirt 2381 cut in six sizes—22, 24, 26, 28, 30 and 32 inches waist measure. A dress for a medium size, each material, will require 5 1/2 yards of 36-inch material. The skirt measures about 10 yards at the foot. Two separate patterns: Cut in seven sizes—34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 4 1/2 yards of 44-inch material. No. 2835—Girls' Dress: Cut in four sizes—2, 4, 6 and 8 years. Size 6 requires 2 1/2 yards of 27-inch material. No. 2390—Girls' Dress: Cut in four sizes—2, 4, 6 and 8 years. Size 6 requires three yards of 44-inch material.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 50,000 farmers for 5 cents a word per week. No "ad" taken for less than 50 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

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

AGENTS WANTED.

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

SALESMEN WANTED.

LUBRICATING OIL, GREASE, PAINT, specialties. Part or whole time. Commission basis. Men with car or rig preferred. Deliveries from our Kansas refinery. Riverside Refining Company, Cleveland, Ohio.

CATTLE.

PRACTICALLY PURE-BRED HOLSTEIN calves, either sex, beautifully marked, six weeks old, from registered sire and choice heavy milking Holstein cows; \$30.00, delivered to any station by express. Paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wis.

GUERNSEYS FOR SALE—ONE REGISTERED bull four months old, three extra good high grade cows to freshen soon, two 2-year-old heifers to freshen, three heifer calves and two extra good high grade Guernsey bulls, one 5 months old, the other past year old. Write Dr. E. G. L. Harbour, Box 113, Lawrence, Kansas.

SEEDS

KANRED SEED WHEAT, \$2.00 PER bushel, sacks extra. J. H. Taylor & Sons, Chapman, Kansas.

INSPECTED KANRED SEED WHEAT for sale. Write for a list of members of the Kansas Crop Improvement Association having Kanred seed for sale. B. S. Wilson, Secretary-Treasurer, Manhattan, Kansas.

DOGS.

RABBIT HOUNDS, FOX HOUNDS, COON, opossum, skunk, squirrel dogs, Setters, Pointers. Brown's Kennels, York, Pa.

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

HONEY.

PURE EXTRACTED HONEY—SIXTY-pound can, \$12.25; two, \$24.00. Frank H. Drexell, Crawford, Colo.

HONEY—CHOICE ALFALFA, 60 LBS., \$12.50; 120 lbs., \$24. Amber Dark Honey, 60 lbs., \$11; 120 lbs., \$20. Bert W. Hopper, Rocky Ford, Colo.

REAL ESTATE.

SOLDIERS—640-ACRE HOMESTEADS. Duff, Casper, Wyo.

WRITE FOR FREE MISSISSIPPI MAP and land list. Land Market, Box 843, Meridian, Miss.

FOR SALE—EIGHTY ACRES IRRIGATED land, southern Colorado, improved; forty acres alfalfa; close to railroad town and joins college farm. Price, \$95 per acre; very easy terms. F. E. Anderson, Spencer, Iowa.

FARM LANDS—TEXAS.

BIG CROPS IN NORTHWEST TEXAS ON the new line of the Santa Fe. The Federal Railroad Administration has authorized the completion of the new Shattuck branch of the Santa Fe Railroad to take care of this year's big crops—wheat, oats and sorghums. This will open for immediate settlement and development a large block of my land in a wheat and stock farming section of Ochiltree and Hansford counties in Northwest Texas near Oklahoma state line, where the first crop has in a number of cases paid for the land, and where cattle and hogs can be raised at low cost. Land is of a prairie character ready for the plow, no stone, stumps, no brush to be cleared, at attractive prices on easy terms. Climate healthful, rain falls during growing season. Write for free illustrated folder, giving experience and results settlers have secured in short time on small capital. T. C. Spearman, 927 Railway Exchange, Chicago, Ill.

FARM LANDS—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 per cent—price \$12.50 to \$20 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.

TANNING.

LET US TAN YOUR HIDE—COW, HORSE or calf skins for coat or robe. Catalog on request. Crosby Frisian Fur Co., Rochester, New York.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

POULTRY.

SINGLE COMB BROWN LEGHORN hens, \$1.50; March pullets, \$1.25; March cockerels, \$1. Show birds, ask price. Paradise Poultry Farm, Carona, Kansas.

BABY CHICKS AND EGGS—STANDARD-bred Leghorns, Rocks, Reds, Orpingtons, Wyandottes; best laying strains. Free delivery; reasonable prices; catalog free. Missouri Poultry Farm, Columbia, Mo.

POULTRY WANTED.

MARKET YOUR CHICKENS NOW. HIGH prices. Coops loaned free. The Copes, Topeka. Established 1883.

RUNNER DUCKS WANTED—BANTAMS for sale or trade. Emma Ahlstedt, Lindsborg, Kansas.

THE STRAY LIST.

TAKEN UP—BY H. E. BUPHORNE OF Sharon Springs Township, Wallace County, Kansas, on April 10, 1919, one red brocked-faced two-year-old steer, left ear cropped and blotch brand resembling letter Y. Ernest R. Ellison, County Clerk.

TAKEN UP—BY JASPER COCHRAN, OF Windom, McPherson County, Kansas, on the 23rd day of June, 1919, one sow, weight 300 pounds; color black with white spots, white feet and stripe in face, slit in right ear. A. J. Cedarholm, County Clerk.

Real Estate For Sale

HOME FARM, 320 ACRES

Out 6 1/2 miles. Good buildings. Fine water, 160 wheat, half with safe; some alfalfa. Only 08,500, with \$2,500 cash, balance long time. One good 100, out 9 miles, small house, 100 smooth, 60 wheat, 40 spring crops, one-fourth with safe; shallow to water; only \$2,500, with \$500 cash, balance terms. Have other farms and ranches on small payments now, another payment after harvest.

B. C. BUXTON, Utica, Ness County, Kansas

159-Acre Central West Farm, \$7,900

One of the best producers in the country, near depot, short drive city of 25,000; 100 acres record crop of 50 bushels wheat; wire fenced pasture, wood and timber to nearly pay for farm; variety fruit. Good eight-room house, three barns, granary, two corn houses. Aged owner made money here, retiring, names low quick sale price \$7,900, easy terms. Details page 59 Catalog Bargains 19 States, copy free.

Strout Farm Agency

381 A. S. N. Y. Life Bldg., Kansas City, Mo.

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

KANSAS LANDS FOR SALE.

FORTY ACRES

Fairly improved, well located. Price, \$2,400; \$1,000 cash, balance five to twenty years at 6 per cent.

480 ACRES, 3 1/2 miles from town of 1,000 people; 250 acres under cultivation; 110 acres in meadow, balance in pasture; nearly all tillable; nine-room house; two large barns; school house on land; well located, good land. Price, \$67.50 per acre, for immediate acceptance. Worth \$85 of any man's money. Long time, liberal terms. Small payment down. Two crops of wheat will pay for this farm. Send for booklet. Address THE ALLEN COUNTY INVESTMENT COMPANY, Iola, Kansas.

Early Laying Pullets

Early laying pullets are generally supposed to be the profitable kind to breed for, but it has been observed by some poultrymen that the pullet which lays very young is not as a rule the best layer in the long run. Very early laying is apt to stunt the growth, which tends to the production of small eggs and in time might result in the development of an inferior strain. It is perhaps not best to encourage precocious laying. The early hatched pullet, however, should be so handled as to begin laying not later than October.

Of course fanciers like to retard laying until after the fall snows for the reason that a pullet is in better show shape just before starting to lay than at any other time.

It should be kept in mind that the profitable hen is like the profitable cow; a high egg yield in September or whenever the production begins is not so important as the total eggs produced in a year. It is the pullet that lays best throughout the whole year that should be developed as far as possible.

HELPFUL POULTRY HINTS

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

Making Poultry Pay

CULLING grown stock is desirable and practical at this season in order to make more room for growing chicks and if possible to enable a slight vacation for some houses, yards or sections so that they can be thoroughly cleaned, disinfected and sprayed.

Those so fortunate as to be able to vacate certain yards, in case those yards are barren, will find it desirable to thoroughly clean and sprinkle the surface with air slacked lime. Next a mixture of oats, rye and winter wheat should be sowed quite thick; the ground then plowed and turned over to a depth of four to six inches. Harrow this well. At harrowing time an additional amount of grain should be sowed. Some of these grains will never work their sprouts to the surface, but even so, they will do much toward making the soil more pure. Corners of the yards and the ground close to the buildings and fences should be well spaded by hand.

There are perhaps a thousand poultrymen who do not use trap nests to every one that does. Therefore, the great majority must use some method, other than trapnest records, for determining the past laying ability of a hen and of course even a trapnest record fails to show anyone other than an expert what egg production may be expected in the future.

There is much spoken and written on how to cull or determine the laying hen. Some point out we must watch and look for those that have laid the color out of their legs as one that was a good layer. Others point to the eye lid, or the beak for the same form of indication. Others point out that the hen with the bright eye, with medium strength of color in legs and back and with the pelvic bones—sometimes called "pubic bones"—well spread, is the hen that is in a laying condition at the time and therefore should be kept marketing all others as non-producers.

Personally, the writer from experience has found all of these and many other signs to have certain merits, but why stop here. What you must know to succeed in not "Is this hen laying right now" but "How many eggs will she likely produce within the next six months or one year under normal conditions and with proper food."

That is the big problem to decide when it comes to culling or selecting those which should be retained as layers. The method of selecting we follow most closely is the Quisenberry-Hogan Method. That method, if studied in detail, fits one to easily grade his hens or matured pullets into three flocks: those that will be extra good producers within the following six to twelve months; those that will prove only fair producers during that period and the third flock those that will be decidedly poor producers.

This latter grade should be marketed at once and in these times of high feed prices, the second grade should also go and under no circumstances should any but the first grade be used for breeding next season.

Help your young pullets to finish their development and your hens through the molt. Be certain they have a balanced egg making dry mash before them and furnish two feeds of moistened crumbling mash per day. Both the dry and moistened mash should have at least ten per cent beef scrap; two per cent fine table salt and two per cent powdered charcoal mixed well into it. All mixtures and parts should be decided by weight.

A few fresh green beef bones thoroughly boiled for four hours makes a fine soup, which if diluted with five parts of water can be used to moisten

the ground mash for layers, moult and growing stock. If this is fed to three times per week, using plain water or milk on other days, good results are certain to come.

Poultry will not do well and more labor will be lost unless care is taken during warm and hot weather have every house and coop well air well ventilated. This is even more important in summer than winter. Every house must be kept as clean and pure as possible. Clean up—Clean out—Clean water—Clean feed should be the standing daily orders for every ones poultry work. Spray houses, disinfect house feed pans, and water fountains.

Prepare now for winter. Repair leaky roofs and buildings. Improve the ventilation system if you can or know how. If you do not know how, better inquire of some authority and seek the information.

Keep your growing pullets away from the old hens. The pullets need more feed at this season than hens and the hens will get too fat or the pullets will starve if they are yarded and fed together. **RUSSEL F. PALMER, American Poultry School.**

Intestinal Worms in Poultry

We have been asked how to treat chickens which seemed to be infested with intestinal worms. A method of treatment recommended by the California Experiment Station and tested by the Bureau of Animal Industry has given good results. It is as follows:

For a hundred birds, steep one pound of finely chopped tobacco stems for 12 hours in water enough to cover the stems and the liquid with one-half the usual ration of ground feed. The day previous to the treatment, withhold all feed, giving water only. At the time the birds have starved for twenty-four hours, feed the medicated mash, and 12 hours after it is cleaned up give the one-fourth of the usual ration of ground feed mixed with water in which epsom salts has been dissolved at the rate of eleven ounces for each one hundred birds. The treatment should be repeated ten days later.

After the flock has been freed from worms, the house and yards should be cleaned, to reduce the chance of reinfestation. The fowls should be removed to temporary quarters, and all manure loose dirt and surface earth to a depth of several inches removed. The removed material should be put where the birds can not get at it, since the roundworm eggs which it contains are very resistant and may retain their vitality for long as a year—possibly longer.

It is important that the yards and runs be kept at all times as clean and dry as possible. Manure should not be allowed to accumulate, and wet spots and puddles of stagnant water should be drained, or the location of the yard changed to a place which can be kept in a sanitary condition.

One pullet in the Barred Rock flock at Purdue University laid 192 eggs in her first year while a cull from the same flock produced 83 eggs for the same period. Hens of this low producing type which become boarders for a part of the season, are the kind that should be eliminated from the flock by a rigorous culling campaign through August and September.

It is recommended by poultry specialists that only the following kinds of hens be kept: Hens that have vigorous vitality; active hens with capacity for thin pelvic bones; late moulters; vigorous pullets raised this year.

Practical Books for Progressive Farmers

Every farm home ought to contain one or all of the practical books on agricultural subjects described on this page. All of these books have had large sales and many will be found in Kansas farm homes. Read the descriptions of the books and if there are any here which you do not already possess, order it now at the bargain price. Do not delay ordering, even if you are too busy to read now. We have only a small supply of these books, especially the best ones. After our present stock is exhausted we will not be able to offer the books at these prices, and some of them we will not be able to get at all. Therefore, take our advice and order now.



BORMAN'S BOOK ON SORGHUMS

This book shows how kafir, milo and cane fed to live stock will increase your farm cash and feed income. It is a book not only of value to sorghum growers, but is equally valuable to every farmer of the Southwest, whether he grows sorghums or other crops.

This book is printed in large, clear type, on a fine quality of book paper, and is full of illustrations. It contains 310 pages and is substantially bound in cloth.

PRICE, \$1.25, or given with one yearly subscription to Kansas Farmer at \$1.75.

The Story of the Soil

This valuable book by Cyril G. Hopkins is written in novel form and is as interesting as any novel you ever read. But the book is not published for pleasure only. It contains the essential facts of how to fertilize, how to restore flooded or worn out lands, what are the plant foods, soil formation, etc. This is printed in large clear type on fine quality book paper and contains 360 pages.

PRICE, 50 CENTS, or given free with one yearly subscription to Kansas Farmer at \$1.00.

Farming and Gardening

Here is another valuable book containing rare information on field crops, vegetable and trucking crops, fruit culture, forestry, injurious insects and diseases and how to combat them. It also contains a chapter on The Silo and a chapter on Making Poultry Pay. This is a large book containing over 500 pages. It is profusely illustrated, printed on excellent quality book paper.

Price reduced to 50 cents, or given free with one yearly subscription to Kansas Farmer at \$1.00.

Profitable Stock Feeding

By H. R. Smith

Any farmer or stockman can get valuable hints out of this book. It is not written for the beginner, but for the farmer and stockman who already has had successful experience in stock feeding. It covers feeding for milk production, feeding for beef production, feeding sheep, feeding hogs, feeding poultry and feeding horses. This book contains 412 pages printed in clear type on heavy book paper, illustrated.

PRICE \$1.00, or given with one yearly subscription to Kansas Farmer at \$1.50.

Handy Book of Facts

This is a book of general information, not about farms and farming, but business, law, medicine, history, etc. It contains information of every day use on almost every subject. The book contains over 250 large pages, every page crammed full of information and statistics, things you are likely to want to know any day.

PRICE, 75 CENTS, or given with one yearly subscription to Kansas Farmer at \$1.25.

ROPP'S COMMERCIAL CALCULATOR



This book is a short cut in arithmetic. It contains grain tables, interest tables, discount tables, weights, measurements, etc., so that by simply referring to the tables you can get the answer to your problems without figuring them out.

PRICE, 25 CENTS, or given free with one yearly subscription to Kansas Farmer at \$1.00.

Cement Workers' Handbook

This book is written not for the professional cement worker, but for the man who intends to do his own cement work at home. It covers more than fifty subjects on cement and its uses in construction, including posts, floors, ceilings, walls, silos, and many others. This little book is nicely gotten up, is printed on good book paper and bound in cloth. It contains 100 pages.

PRICE, 25 CENTS, or given free with one yearly subscription to Kansas Farmer at \$1.00.

ATLAS OF THE WORLD'S WAR

This is a large 64-page paper-covered book full of information, maps, charts and diagrams about the late war. This atlas was published just before the close of the war and while the maps and information are accurate, it does not contain information as to happenings after November, 1918, and for this reason we were able to purchase them at a bargain and can offer them at the price of 25 cents each.

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KANSAS FARMER, Topeka, Kansas.

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for which please send me, postage prepaid, the following
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Town..... State.....

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for which please renew my subscription for one year and
send me, postage prepaid, the following book:

Name..... R. F. D.....
Town..... State.....

HOLSTEIN CATTLE.

HOLSTEIN CALVES

Dispersal Sale of Holstein Cattle

We have sold our farm and are offering for sale our entire herd of Holstein cattle, as follows: A 25-pound grandson of Pontiac Korndyke, fifteen months old; one ten-months-old bull sired by a grandson of Johanna McKinley Segis; one A. R. O. cow five years old with a nineteen-pound three-year-old record; two female calves from this cow, one a yearling and one six months old; two A. R. O. cows, one four years old, one five; two pure-bred cows five years old, untested; one pure-bred cow three years old, untested; one pure-bred heifer calf six months old; eight head grade heifer calves seven months old; five head grade heifers, four of them in breeding; eighteen head grade cows from three to seven years old. All the mature cows were raised and selected for our own use, part of them have been tested and they are all producers and bred to a grandson of a forty-pound bull. Fifteen of the cows will freshen in September and October and the rest of them early in the winter. The heifers and calves have been carefully developed and are fine heavy-bone individuals. We will sell these cattle in lots to suit the purchaser.

H. H. DOWD . . . CLEARWATER, KANSAS

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

SAND SPRINGS FARM
REGISTERED HOLSTEINS

Everything on yearly test. Herd sire, Prince Ormsby Mercedes Pontiac—a 32-pound grandson of Sir Pietertje Ormsby Mercedes.

E. S. ENGLE & SON . . . ABILENE, KANSAS

40 - CHOICE HOLSTEIN SPRINGERS - 40

We have on hand forty very choice Holstein springers due September 1. They are the large heavy-milking kind. Come and see them.

CLOVER VALLEY HOLSTEIN FARM, WHITEWATER, WIS.

Get a Holstein
Bull Now

It doesn't cost much to make a start, but every year it will cost more. Some of the most successful and prominent Holstein men started with only a few pure bred animals in connection with a number of good grades, gradually weeding out the grades and replacing them with purebreds. Grade up your herd with a pure bred Holstein sire. Then when you're satisfied that you're on the right track, you'll feel like getting a few cows. Any good Holstein does the work of two ordinary cows.

If interested in
HOLSTEIN CATTLE
Send for our booklets—they contain much valuable information.
HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA,
Box 114, Brattleboro, Vt.

HOLSTEIN
CATTLE SALE

At Farm Near Hutchinson, Kansas,
August 27, 1919

100 Head Cows and Heifers

Consisting of thirty head pure-bred registered cows and heifers; seventy head high-grade heifers, 2's and 3's. All will freshen this fall and all bred to registered bulls. All in good condition. I am selling some valuable cattle. Please send for catalog and come to my sale.

F. L. MARTIN
Hutchinson . . . 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

Collins Farm Holsteins

A chance to purchase 40-pound breeding. We have choice sons of the great 40-pound bull, Vanderkamp Segis Pontiac, for sale. The dams of these bulls have creditable A. R. O. records. Price reasonable. Write or come and see our herd.

Collins Farms Co., Sabetha, Ks.

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

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

SHORTHORN CATTLE.

WANT SHORTHORNS THAT COMBINE
BEEF AND MILK



AMERICAN SHORTHORN BREEDERS ASSN
13 Dexter Park Avenue . . . Chicago, Illinois

ALL SCOTCH SHORTHORNS
Herd headed by Walnut Type, a grand son of White Hall Sultan, and Silver Plate, a son of Imp. Bapton Corporal. A few young bulls for sale. Robert Russell, Muscotah, Ks.

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.

SPOTTED POLAND CHINAS.

Herd Boar Prospects by Spotted Colossus, Spotted to Date, and Woodrow Wilson; \$50 to \$250. T. T. Langford & Sons, Jamesport, Mo.

HORSES AND MULES.



Percherons--Belgians--Shires
Some choice stallions and mares for sale. All registered. Terms, Fred Chandler, Route 7, Charlton, Iowa. Above Kansas City.

RED POLLED CATTLE.

RED POLLED BULLS

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

E. E. FRIZELL & SONS, FRIZELL, KAN.

RED POLLS, BOTH SEXES, BEST OF BREEDING.

Charles Morrison & Son, Phillipsburg, Kan.

SHROPSHIRE SHEEP



FOR SALE
A bunch of registered Shropshire rams ready for service, priced worth the money.
HODARD CHANDLER,
Charlton, Iowa.

POLAND CHINAS

CLINTON HERD

BIG TYPE POLAND CHINAS

Is ready to ship you a spring boar that will make you a real herd boar, sired by Giant Buster's Equal. Will sell a few trios not related. We have satisfied customers in 25 different states and can satisfy you. Everything immune and we record them.

P. M. Anderson, Holt, Missouri

SPOTTED POLANDS—SHROPSHIRE

Choice fall boars. Registered ram lambs by Broughton 2434 and Senator Bibby VI. R. W. SONNENMOSER, WESTON, MO.

Big-Type Poland Weanling Boar Pigs
Bargain prices. Satisfaction guaranteed.
Isaacs Stock Farm, Peabody, Kansas.

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

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

MYERS' POLAND CHINAS

Large spring pigs in pairs or trios, priced to sell. Write your wants. Annual fall sale October 14.
H. E. MYERS . . . GARDNER, KANSAS

POLAND CHINA BOARS

For Sale—25 Spring Boars by Giant Luner by Dishers Giant and out of Old Lady Luner, from my best herd sows. These pigs are good, the tops from 80 head, priced reasonable.

H. R. Wenrich, Oxford, Kan.

DUROC JERSEYS.

Woodell's Durocs

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

OTEY'S DUROCS

One spring yearling sire, fall boars by Pathfinder Chief 2d, "the mighty sire." Real herd headers. Priced right. Would exchange for good gilts.

W. W. OTEY & SON, WINFIELD, KANSAS

HIGHVIEW DUROCS

FOR SALE—TWENTY FALL BOARS
By Repeater, Golden Repeater and Pathfinder. Guaranteed and priced to sell quick.
F. J. MOSER . . . SABETHA, KANSAS

MULEFOOT HOGS.

REGISTERED MULEFOOTS

Twenty choice weaned gilts; ten fall gilts; a few bred sows. Boars no kin. Catalog and prices on request.

KNOX KNOLL STOCK FARM
Humboldt . . . Kansas

JERSEY CATTLE.

DORNWOOD JERSEYS

Our registered Jersey bulls cannot be surpassed for quality and price. Come and see them or write for description.

DORNWOOD FARM
Route 1 . . . Topeka, Kansas

ALLEN CENTER STOCK FARM

Registered Jerseys from choice Jersey cows. Sire's dam is the highest producing cow in Kansas. Prices reasonable.

TREDWAY & SON, LA HARPE, KANS.

BROOKSIDE JERSEYS

REGISTERED JERSEY BULLS, few old enough for service from Eminent Flying Fox dams, sired by Idalia's Raleigh, a son of the great Queen's Raleigh. Write for prices.

THOS. D. MARSHALL, SILVIA, KAN.

BREEDERS' DIRECTORY

ANGUS CATTLE.
Geo. Dietrich, Carbondale, Kansas.
RED POLLED CATTLE.
Mahlon Greenmiller, Pomona, Kansas.
Horn Dorset Sheep
H. C. LaTourette, Rte. 2, Oberlin, Kan.

AUCTIONEERS.

LIVE STOCK AUCTIONEER—Fifteen years' experience. Wire for date.

JOHN D. SNYDER, HUTCHINSON, KAN.

HAMPSHIRE HOGS

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

The Holstein cattle sale held at the Disciplinary Barracks at Fort Leavenworth on Saturday, July 26, was attended by a large crowd of farmers and Holstein breeders from Kansas and adjoining states. The offering was a splendid lot of breeding cattle. The nineteen head of bulls sold for \$4,255, an average of \$224. Fifty-nine females, including a lot of young calves and heifers sold for \$19,890, an average of \$337.12. The seventy-eight head of cattle brought \$24,145, an average of \$309.83. The total returns were very satisfactory to Major Harlo J. Fiske, who managed the sale.

FARM AND HERD
NEWS NOTES

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

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Individuals

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for several days, or be delayed in
forwarding, and Kansas Farmer
cannot assume any responsibility
for mistakes occurring thereby

CLAIM SALE DATES.

Percheron Horses.
Oct. 15—P. E. Lill, Mt. Hope, Kansas.

Red Polled Cattle.
Aug. 20—I. W. Poulton, Medora, Kan.

Holsteins.
Nov. 14—Holstein Calf Club Sale, Topeka, Kan. W. J. O'Brien, manager.

Nov. 15—Breeders' Holstein Sale, Topeka, Kan. W. J. O'Brien, manager.

Poland Chinas.
Aug. 6—A. J. Erhart & Son, Ness City, Kan. (Sale at Hutchinson.)

Aug. 21—Earl Bower, McLouth, Kan.

Sept. 27—Ketter Bros., Seneca, Kan.

Oct. 2—Eara T. Warren, Clearwater, Kan.

Oct. 4—Geo. Morton, Oxford, Kan.

Oct. 7—Jones Bros., Hiawatha, Kan.

Oct. 8—Dr. J. H. Lomax, Leona, Kan.

Oct. 9—Herman Groninger & Son, Bedford, Kan.

Oct. 6—Ross & Vincent, Sterling, Kan.

Oct. 13—H. L. Glover, Grandview, Mo.

Oct. 29—C. M. Hettick & Sons, Corning, Kan.

Oct. 14—H. E. Myers, Gardner, Kan.

Oct. 15—H. B. Walter & Son, Emporia, Kan.

Oct. 16—A. J. Erhart & Son, Ness City, Kan.

Oct. 17—Adams & Mason, Gypsum, Kan.

Oct. 20—P. M. Anderson, Holt, Mo.

Oct. 22—Fred G. Laptad, Lawrence, Kan.

Oct. 23—McClelland & Sons, Blair, Kan.

Oct. 24—Dubach Bros., Wathena, Kan.

Feb. 11—Ross & Vincent, Sterling, Kan.

Durocs.
Aug. 20—W. T. McBride, Parker, Kan.

Oct. 22—Fred G. Laptad, Lawrence, Kan.

Nov. 7—Kempine Bros., Corning, Kan.

Feb. 14—John W. Peirford, Saffordville, Mo.

Spotted Poland Chinas.
Feb. 14—R. W. Sonnenmoser, Weston, Mo.

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

Chester Whites.
Oct. 21—Chester White Pig Club Sale, Topeka, Kan. W. J. O'Brien, manager.

Earl Bower, of McLouth, Kansas, is one of the young breeders that has made success in breeding Poland China hogs. He has at the head of his fine herd of sows a great show prospect, Bower's Bob. He sired by the world's champion, Calver Big Bob, and out of a great producing sow, Black Jewel. Mr. Bower has sold his first litter and will be compelled to move to a location near town. For this reason he has announced August 21 for a reduction sale of twenty large fall yearling gilts, bred to Bower's Bob; five choice yearling gilts, five tried brood sows, and five head of extra good spring boars. The offering is in fine condition and promises to be one of the best to be consigned to an August sale this year. There will also be one April yearling boar offered, a King's Equal by Orphan Bob out of a litter of twelve pigs. This hog is a splendid prospect for a real herd boar. There will also be one spring gilt and two boars Halfords Ajax.

Charles Morrison & Son, of Phillipsburg, Kansas, owners of one of the outstanding herds of Red Polled cattle, report their doing well and a good demand for their class Red Polls. All bull calves and the herd last year were sold early and they were unable to supply the demand. This year they have a fine lot of spring calves, including some outstanding young sows. They report plenty of rain in their section. Wheat all out, corn doing fine. Corn and hay crop never better in that section. This firm also owns a fine herd of pure bred Poland China hogs.

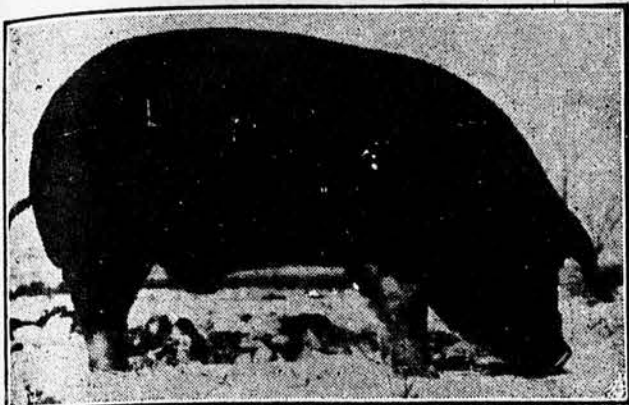
H. H. Dowd, of Clearwater, Kansas, owns one of the good producing herds of Holsteins in the state, has sold his first and will disperse his Holstein herd. It includes a 25-pound grandson of Pontiac Korndyke, a ten-months-old bull by a grandson of Johanna McKinley Segis, a general A. R. O. cows, pure-bred heifers, a lot of choice high-grade cows and heifers bred to a grandson of a 40-pound bull.

H. E. Anderson, of Whitewater, Wisconsin, reports his Holstein herd making a fine record again this year. Mr. Anderson reports one of Wisconsin's heavy producing Holstein herds. The herd is headed by Pontiac Chief 100732, dam Pontiac Defender, a cow with a great record. A feature of the herd at this time is the lot of cows due to freshen early in September.

F. J. Moser, of Sabetha, Kansas, held an annual summer Duroc Jersey sale on July 25. While the offering was presented in splendid breeding condition, extreme hot weather and the harvest and threshing season was the main cause several breeders not being able to attend. The twenty-nine head sold at an average of \$100 per head. The sows shown were the great boar, Joe King, have announced demand. Moser & Sons have announced October 19 for their annual fall sale.

A. G. Van Horn, formerly county agent of Wyandotte County, is now manager and part owner of the Collins Farm Company at Sabetha, Kansas. Mr. Van Horn is a graduate of the Kansas Agricultural College and is building for the Collins Farm Company one of the best herds of Holstein cattle in the state. The herd now numbers seventy-eight head of choice cows, with R. O. records. The herd is headed by a great forty-pound bull, Vanderkamp Segis Pontiac, and a feature of the herd at this time is a choice lot of young bulls by the sire.

POLAND CHINA REDUCTION SALE



Bower's Bob, by the Champion, Caldwell's Big Bob

At My Farm Near
McLouth, Kansas, August 21, 1919

FORTY-FIVE HEAD OF SELECT POLAND CHINAS

Twenty head large fall yearling gilts, several bred for fall litters; five spring gilts sold open; five tried brood sows bred for September litters, and fifteen choice spring boars.

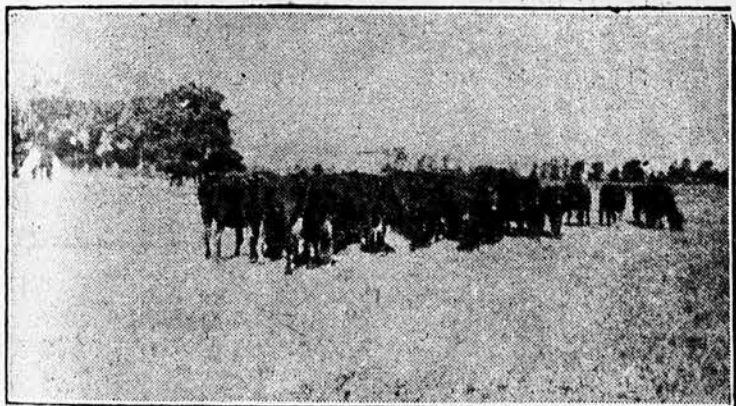
I am changing locations and have sold the farm I now live on and am selling a choice lot of breeding stock that I would not sell if I was not moving to a new place. Everything is guaranteed right in every way. Please send for catalog and come to my sale.

EARL BOWER - - - **McLOUTH, KANSAS**
Auctioneers—**Col. J. C. Price, Col. H. Metzger**

RED POLLED CATTLE SALE

At My Farm Near Medora, Kansas

WEDNESDAY, AUGUST 20th, 1919



I have sold my farm and will change locations and am obliged to sell thirty-two head of my cattle, consisting of

FIFTEEN MATURE COWS BRED, AND SEVEN COWS WITH CALVES AT FOOT (ALL HEIFER CALVES)

Four 2-Year-Old Heifers Bred, Five Yearling Heifers Sold Open, and One Extra Good 2-Year-Old Bull

All the cattle are registered and guaranteed right in every way. They are a useful lot of farmers' cattle and are of the milking kind of Red Polled cattle. They will make money for any farmer who will give them a little care and feed. Please send for catalog and come to my sale.

I. W. POULTON, MEDORA, KANSAS

Ten miles north of Hutchinson, Kansas, on the Rock Island and Frisco Railways.

Auctioneers: **Col. John D. Snyder, Col. R. E. Talbert**

Swine Show to Des Moines

The National Swine Show will be held at the Iowa State Fair Grounds, September 29 to October 4, 1919. The swine industry is very fortunate in having this national round-up show held in the heart of the corn belt, in a city which has unusual transportation facilities, unusual hotel accommodations, and a place for holding the show which is satisfactory in every respect and is unexcelled anywhere in the United States. Breeders and growers of hogs are thoroughly acquainted with the Iowa State Fair grounds equipment for accommodating pigs and for showing them. This equipment has been placed at the disposal of the National Swine Show officials. In addition to the equipment which is regularly used for swine, such other buildings on the grounds which will be needed for the show, are also available. The regular classification which has been used heretofore in this show will be followed, excepting for a very few minor changes.

In addition to the regular classification for the eight breeds which have shown heretofore, a ham and bacon show and corn show will be held. Premiums are offered to the extent of about \$500 for each of these divisions.

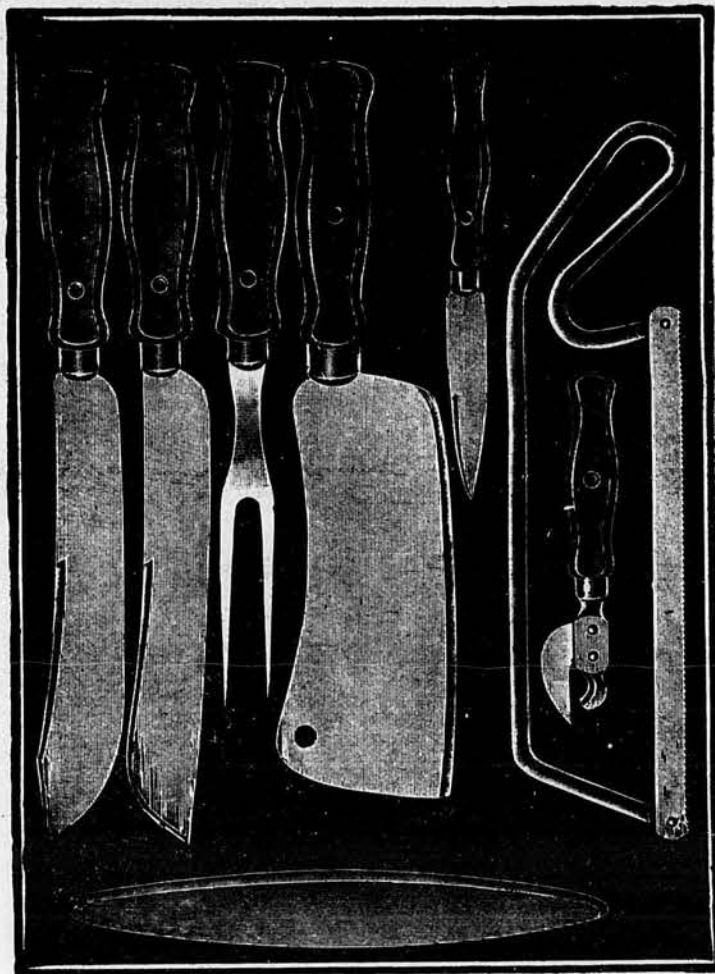
On Monday, the opening day of the show, the college students' judging contest in addition to other special judging contests, which will be announced later, will take place. Already enough teams have promised to participate in the college classes in order to insure its success.

An added feature to the 1919 show will be the pig club round-up for which approximately \$1,000 is offered. Pigs of various breeds, which have won in their respective counties, will be eligible to show in this contest. Special dispensation has been made for entry fees and pen rentals for pigs in pig club classes.

Special programs will be given in the main live stock judging pavilion two evenings during the show. For these evenings, elaborate programs will be prepared.

Eight Piece Kitchen Set

FREE



This fine and useful eight-piece Kitchen Set, consisting of bread knife, carving knife and fork, meat cleaver, meat saw, paring knife, can opener and sharpening stone, is a practical necessity in every household. The bread knife and carving knife have eight-inch blades, the cleaver a five-inch blade, and the other articles are in proportion as shown in illustration. Every article in the set is guaranteed and will be replaced if found defective. It is a genuinely good kitchen outfit. Send for yours today.

SPECIAL OFFER.—Send us two yearly subscriptions to *Kansas Farmer* at \$1.00 each—\$2.00 in all—and we will send you **FREE** and **POSTPAID** one of these eight-piece Kitchen Sets. Use order blank below.

ORDER BLANK

KANSAS FARMER, Topeka, Kansas.

Gentlemen: Enclosed find \$2.00 to pay for one year's subscription for each of the following:

Name

Address

Name

Address

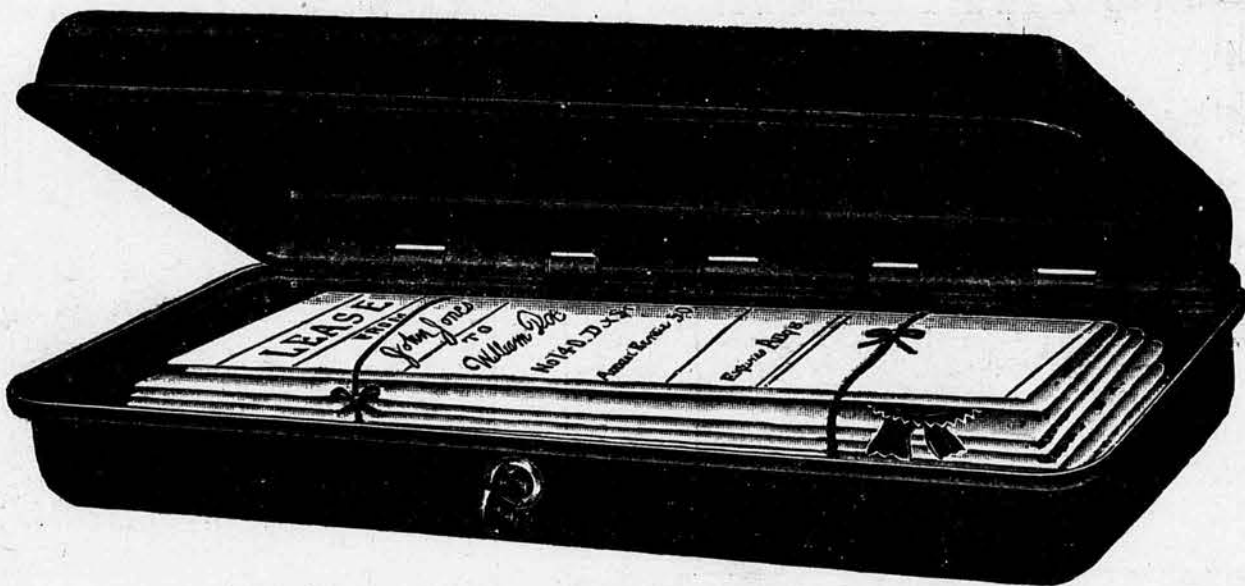
Please send to

Name

Address

Keep Your Pedigrees Where You Can Find Them

Have a Safe Place For Your Deeds, Notes, Mortgages, Liberty Bonds, Insurance Papers, Wills, Jewelry, Valuable Letters, Etc.



THIS STEEL DOCUMENT BOX GIVEN WITH YOUR SUBSCRIPTION TO KANSAS FARMER

It does not pay to take chances with valuable papers. They are liable to theft, to be destroyed by fire, to be misplaced or destroyed through carelessness or to be lost unless a safe place is provided for their keeping.

This DOCUMENT BOX is made of best Bessemer steel, has good strong hinges and lock and is provided with two keys. It is 11 inches long, 6 inches wide and 2½ inches deep—just the right size for filing away your valuable papers.

The box is deep black in color with lustrous polish, and makes a handsome appearance.

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This valuable safety box will be sent FREE and POST-PAID with your renewal subscription to KANSAS FARMER for one year or more at the following rates:

Kansas Farmer one year and box.....	\$1.00
Kansas Farmer two years and box.....	1.50
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KANSAS FARMER, TOPEKA, KANSAS.

Enclosed find \$.....for which renew my subscription for.....years and send me the Steel Document Box postpaid.

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