

KANSAS FARMER

For the improvement of the Farm and Home

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GOVERNMENT BREEDING TEST

Co-operative Experiment in Dairy Cattle Improvement Starts in Idaho

WHEN two young bull aristocrats started out on a journey to their new home in Idaho recently, an experiment which will interest cattle breeders was begun. These two bulls, both of which have enviable family trees, were sent to the University of Idaho—not to learn, but to teach, and the subject they will demonstrate is "The Best Method of Fixing and Insuring Uniform Transmission of High Production in Dairy Cattle."

Purpose to Improve Average

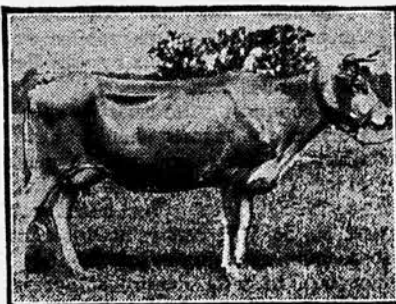
The shipping of these two bulls, one a Holstein and one a Jersey, was the first step in carrying out a co-operative experiment, undertaken by the Dairy Division of the Bureau of Animal Industry, United States Department of Agriculture, and the Department of Dairying, University of Idaho. The object is not to improve the high producing dairy animals already in existence, but to determine a method of breeding that will produce the better animals in larger numbers. When this method is determined and put to practical use, as it undoubtedly will be, it will result in a great advance to the dairy industry. It is the average production—the production of the rank and file—that counts, and this experiment is aimed at raising that average, rather than producing a few record-breaking cows.

The experiment to be carried out at the University of Idaho is a part of a general plan for extensive breeding experiments, outlined by R. R. Graves, of the Federal Department's dairy division. Other experiments similar to the Idaho project will be carried out directly with the herds of the dairy division and co-operatively with herds of state experiment stations and individual breeders. These experiments will fill a long-felt need for a series of carefully planned tests, involving a large enough number of animals, and extending over a sufficient length of time to warrant accurate and definite conclusions as to the best method of breeding. While the need for this work has been long recognized, the cost of the work and organization required to handle it successfully has prevented private individuals from trying it.

An Unique Experiment

In the Idaho experiment the following methods of breeding will be compared: Inbreeding as compared with outbreeding, and linebreeding as compared with outbreeding. As Holsteins and Jerseys predominate in the University herds, the Holsteins will be used in the inbreeding and the Jerseys in the linebreeding work. No crossbreeding experiments will be attempted with these herds, but as this type of work is included in the general plan, it will be carried on with the herds of some other station or breeder.

According to the rather unique agreement with the University of Idaho, the dairy division will furnish the bulls used



THESE COWS ARE THE DAMS OF THE TWO BULLS LOANED IDAHO EXPERIMENT STATION FOR BREEDING TESTS.

in the experiment, and the university will furnish the cows. The experiments will be carried out with the animals in the university herds, and not less than twelve females are to be used as the foundation herd in each experiment. The females and their progeny are to remain the property of the university, while the bulls will remain under the ownership of the Bureau of Animal Industry. The university has agreed to stand the expense of feeding and caring for the bulls, and will retain all females produced in the herd until they have completed one lactation period so that accurate records will be had on the milk production, butter fat test, and date of calving for all daughters of each sire.

Why Results Will Be Valuable

The results of the experiments should furnish excellent information for determining the relative value of inbreeding, linebreeding, and crossbreeding, since the same foundation animals will be the basis of both the inbred and the outbred herds. This will make the inbred animals comparable, generation by generation, with the outbred animals. In

like manner, the same foundation animals will be the basis of the linebred and crossbred herds making the linebred animals comparable with the crossbred animals.

The Jersey bull sent the University of Idaho is out of a daughter of Hillside Torono, a proved bull recently purchased to head the experimental herd owned by the government at New Iberia, Louisiana. Hillside Torono has three daughters with annual records of over 500 pounds of fat on two milkings daily and a number of good records in the making. Hillside Torono is sired by Pogis 99th of Hood Farm and out of Lass 57th of Hood Farm, the daughter of Hood Farm Torono. The dam of the bull was not tested this year but has been milking 35 to 37 pounds of 5.5 per cent milk a day—two milkings—with first calf. She will be tested next year. The sire of the bull is Hillside Emperor, a grandson of Hood Farm Torono and Pogis 99th of Hood Farm, so that he traces to those two sires on both his sire and his dam side.

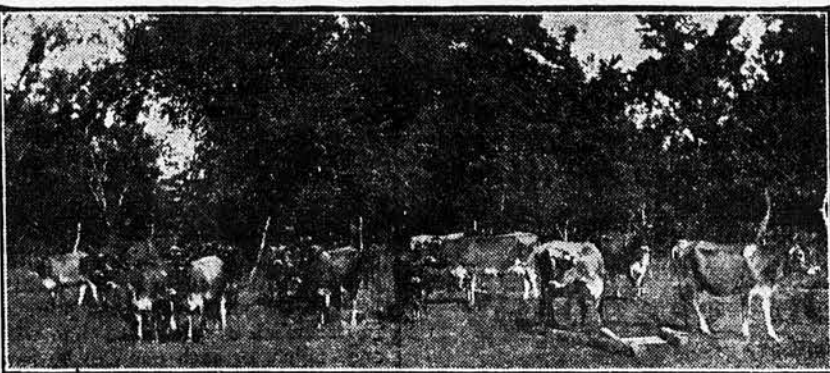
In order to bring out the facts in re-

gard to the breeding of these two bulls sent to Idaho, it is obvious that the names of their various ancestors, together with their records, will have to be mentioned from time to time. In doing so it is not to be assumed that the dairy division endorses these animals as being necessarily the best animals of their respective breeds and it is not expected that these remarks will be used for such a purpose.

The breeding of the Holstein bull is unique in that he is so closely inbred. His sire and his dam carry 87.5 per cent same blood. The sire is a son of Friend Hengerveld De Kol Butter Boy, the sire of Banostine Belle De Kol, 1,058 pounds fat; Highlawn Hartog De Kol, 998 pounds fat; Daisy Grace De Kol, 962 pounds fat; Spotted Ann's Daughter, 871 pounds fat. The dam is also a daughter of this same sire. The sire of the bull is out of a daughter of Pontiac Aaggie Korndyke, four daughters over 900 pounds fat, as is also the dam of the bull, while the great granddam on both the sire and the dam's side are by Friend Hengerveld De Kol Butter Boy. The bull going to Idaho traces to this latter sire four times, twice on the sire's side and twice on the dam's side, and traces twice to Pontiac Aaggie Korndyke, once on the sire's side and once on the dam's side.

On account of the length of time required to complete such an experiment, results will not be known for a long time, but when the work is finally completed the conclusions arrived at should be of real value.

Extensive advertisements are now being seen in many of our papers setting forth the agricultural possibilities of Canada. There has been a good deal of talk that Canada was draining the United States of its farm population, particularly since the signing of the armistice. It is difficult to get actual figures as to what is happening. Without doubt Canada would like to get a lot of our good farmers to settle in their undeveloped sections. The Department of Agriculture states that it finds nothing alarming in the situation as regards the drift of farmers from the United States to Canada and does not give any credence to the statement that the United States has lost a million farmers or anything like it to Canada in ten years or at all. It maintains that as many farmers have come from Canada to the United States as have gone from the United States to Canada. The statistics of the Bureau of Immigration are not in sufficient detail, but they seem to show that while a considerable number of people have gone to Canada, the bulk have not been farmers. The largest exodus to Canada took place in 1911, the number being given as 49,375. It of course was assumed that practically all of these were farmers seeking cheap lands, but the statistics of the Bureau of Immigration give the number of farmers who left the United States that year for all parts of the world as only 11,560.



The honor of having the first accredited herd of cattle in Kansas goes to W. W. Walton, Holton, Kansas, owner of the Aldervale Jerseys. This herd is shown in the cut. Dr. J. M. Lawson of the Federal Bureau of Animal Industry made the last tuberculin test of Mr. Walton's herd September 5 and 6. The herd came through without a single reactor as they did on previous tests.

Do You Remember Gasless Sundays?

NO better way could be found to illustrate and emphasize the usefulness of the Standard Oil Company (Indiana), and the broad and varied service it renders, than to take five minutes and imagine a gasless year.

Think how our lives instead of being full and complete through association with our fellow men would be circumscribed by the barriers set up by shank's mare.

Think how manufacturing would be hampered. How industry generally would be crippled. How crops would go to waste through inability to harvest, and the leaps and bounds that the cost of living would take.

Instead of the natural expansion of business that comes from service and usefulness the whole structure of business would be hampered through sheer inability to render to society that service which society has been accustomed to demand.

The Standard Oil Company (Indiana) is a public servant owned by 4649 stockholders, no one of whom holds as much as 10 percent of the stock.

The Standard Oil Company (Indiana) is doing a big job in a big way and has grown great simply by reaping the rewards that come from rendering the service demanded by business and society in a manner satisfactory and beneficial to the world at large.

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910 S. Michigan Avenue, Chicago, Ill.

1838

MECHANICS ON THE FARM

Items of Interest About Automobiles, Engines, Tractors and Motorcycles

Getting More For Money

IF YOU are in the market for a tractor and wish to invest your money so as to get the greatest possible return for it, the price which you pay and what you receive for it is naturally of considerable interest to you.

In buying a tractor, as in buying an automobile, there is something more to be considered than the mere list price of the machine; the accessories and other equipment will naturally have a great deal of influence on the value you receive for your money. For example, you would not expect to pay the same price for an automobile without a self-starter as for another machine with one, other things being equal.

Most farmers are today so well posted on automobiles that they can compare values in these machines very intelligently. In the case of tractors, however, many have not had the same experience as with automobiles and some are apt to be misled by the list prices of two machines.

In comparing the relative value of two tractors the farmer should know exactly what the equipment of the machines is in each case and how much he will be required to spend for extra equipment which he will really need to make the machine meet his requirements. For instance, he may require attachments beside the ones which are regularly furnished, and he should learn the price of these and how much it will cost to put them on. If he will want to use his tractor for belt work and it is not fitted with belt pulley or governor he must, of course, add the cost of these to the list price in comparing it with another machine, the price of which includes this equipment.

The same is true in the case of what may be termed "safety appliances" or at least conveniences, such as fenders, operating platform, etc.

Furthermore, he must compare the prices on a basis of the amount of work which the two machines will accomplish in a given time. This cannot always be done by a comparison of the horse-power ratings since some machines are considerably underrated while others are rated almost to their actual capacity. The number of plows which the two machines will pull under similar conditions is perhaps the best basis of comparison unless he can obtain figures as to the actual power capacity of the two machines. All such points as these should be kept in mind by the man who is considering the purchase of a tractor.

It is the worst kind of false economy to save a few dollars in the first cost of a tractor and lose several times this amount every season through a small and inefficient machine.—Tractor Farming.

Let Engine do the Work

The engine on the farm home makes possible the combination of a number of labor-saving facilities.

Some of these may be classed as luxuries, but most of them are conveniences and things which the modern farmer can well afford, and they will greatly relieve the burden of household work for the farm wife.

By having a power house for the engine, one can put in a line shaft, connect all the machinery with pulleys, and run them all at the same time with the one engine, or each one can be run separately.

The engine is becoming practically a jack of all trades. It will do away with the weekly turmoil of the wash tub, saving the wife much work and many backaches. It will do the churning, separate the cream, pump the water, grind

the feed, saw the wood and run a vacuum cleaner. It will also furnish power to operate a home lighting plant. It does all these things quickly, easily and with but little expense. The types of engine suitable for use in the home are made to burn either gasoline or kerosene.

Winter Care of Machinery

The time will soon be at hand when the major portion of the farm machinery will be laid up for the winter, and it is a matter of considerable importance as to whether this expensive equipment will be well cared for or left out in the weather until next spring.

All machinery should be housed for the winter, and beside this there should be a thorough inspection given each machine before it is put away. All broken parts should be noted and repairs ordered now, so that there will be no delay when the machine is again needed. All bearings and working parts should be cleaned and then oiled to prevent rusting. All loose bolts should be drawn tight, and minor repairs made at once.

If it is impossible to house the machinery, precaution should be taken against undue exposure to the elements. Machines should be well covered with canvas, after being oiled, or a wooden frame covered with tar paper provided to cover the working parts.

A little care at this time will do away with a great deal of trouble in starting out next season.

Aid for Road Improvement

Federal aid in road building was favored at the recent conference of the National Board of Farm Organization. The resolution passed was as follows:

"We believe that federal aid for road improvement should be continued in operation with the states. The well-being of agriculture demands an aggressive road construction policy by the national state and local governments. We demand that federal funds shall not be used in an extensive boulevard system to be used by the few, but that main and post roads and the highways which must travel the food supplies of a nation, be given first consideration."

New Wheat Grading Rules

Effective immediately, the United States Department of Agriculture will handle all wheat appeals from local inspectors' grades of intrastate as well as interstate transactions. Formerly, under the grain standards act, wheat required to be shipped or delivered in shipment across state lines before appeal could be taken to the government.

The new arrangement has been made by the secretary at the urgent request of Julius H. Barnes, United States Wheat Director, and is effective immediately and during the continuation of the Food Control act, the Wheat Control act, and the executive order of July 14, 1919. Mr. Barnes stated that it was necessary to have the appeal privilege extended to interstate or intrastate in order to make the guarantee good to the producer of wheat everywhere in the United States.

Pursuant to this agreement field grain supervisors in all the large markets of the United States have been instructed to entertain all wheat appeals.

A certain gentleman of color named his cow "United States," says the National Stockman and Farmer, because she went dry July 1.

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KANSAS CROPS

A production of 65,652,000 bushels of corn is forecasted for Kansas by Edw. Paxton, field agent of the Federal Bureau of Crop Estimates. This is over twelve million bushels more than the production of last year, but forty-one million bushels less than the average annual production for the past ten years. The acre yield forecasted is 15.3 bushels. Through the central third of the state corn is almost a failure. Some counties in the northeast have a fair crop and some in the northwest a very good crop. Practically all the crop is well matured though light in those sections of the state where the summer drought was very severe and long continued.

Preliminary estimate shows an average yield of twenty-eight bushels of corn this year as compared with twenty-two bushels in 1918 and thirty-one bushels in 1917. The 1919 production will amount to 44,072,000 bushels as compared with 51,238,000 bushels in 1918, 40,804,000 in 1917, and 45,524,000 bushels the ten-year average. The ten-year average yield has been twenty-six bushels per acre.

To this year's crop of 144,807,000 bushels of Kansas winter wheat a total of 29,000 bushels of spring wheat is to be added. This spring wheat represents an average yield of 9.3 bushels an acre on 30,000 acres grown largely in the northwest, although a scattering acreage is found throughout the state. No estimate as to the acreage of winter wheat to be seeded this fall will be taken until December 1 after drilling is completed. From present outlook a much reduced acreage is to be anticipated. In the rectangle formed in the southern part of Kansas by a north and south line through Dodge City and an east and west line through McPherson it is quite generally too dry to permit of seeding and preparation for seeding. There is some exception in the northwestern portion of this rectangle. Elsewhere in the state moisture ranges from ample to abundant and seeding is being pushed to the maximum, although on the average the seeding date is very late. On the basis of the government report it looks as though the state would seed at least 33 per cent less than last year's phenomenal record acreage. Some counties will not seed half as much as in 1918.

Kansas this year broke all her past records in barley production. Although the acreage was less than in either 1917 or 1918, the yield per acre is estimated at twenty-seven bushels this year, which is the largest yield per acre recorded in the past fifteen years with the exception of 1915, when the yield was thirty-one bushels.

Kafir, milo and feterita came up to harvest with a promise of 80 per cent of a normal crop, says Mr. Paxton. The sorghum crops, both grain and saccharine, have seldom reached as generally satisfactory maturity in the state. Even in the extreme northwest counties nearly every variety has matured grain without frost damage. A crop of 27,514,000 bushels is forecasted this year. The average production of the last four years has been 21,490,000 bushels. The record grain sorghum year in Kansas was 1915 with 35,100,000 bushels. Harvest has been pushed in the past two weeks and an earlier completion is promised than for several years.

RAIN HELPS WHEAT SEEDING

Recent rains have very materially changed the attitude of Kansas farmers toward sowing wheat this fall as com-

pared to the situation of two or three weeks ago, according to information received by the State Board of Agriculture from various localities. This is gleaned from letters from farmers here and there to the board and visitors at the board's office.

In commenting on this Secretary Mohler said that no definite estimate could be made as to the exact acreage from this casual information, but it clearly indicated that more wheat would be sown than was thought probable two or three weeks ago. With plenty of moisture in the soil, a great many farmers will sow late without any preparation of the ground except cleaning off the heavy stubble and drilling in the wheat. Others are disking and drilling, in either case dispensing with plowing. From a number of the western counties come reports that where the grasshoppers cut off the heads of wheat, the ground will be self-seeded and some farmers are merely resorting to disking in the hopes of securing a good stand. Of course, if the wheat does not show sufficient promise at the beginning of the growing season next year, the ground can be devoted to spring crops. Owing to the general belief that wheat will be a paying crop next year, it is expected that many farmers who had previous to the rains concluded to sow little or no wheat, will now put in wheat and take the chances with the weather.

The average annual acreage sown to wheat in Kansas in the last ten years has been 8,780,000 acres. In the fall of 1918 11,611,000 acres were planted.

Next month when seeding has been completed the Kansas State Board of Agriculture will, as has been its custom for years, make a canvass of the situation in every county and issue a report on the probable acreage sown and the condition of the growing wheat.

CLUB CONTESTS AT WICHITA

In the canning and bread-baking demonstration contests begun at the Topeka and Hutchinson fairs and culminating at the Wichita Wheat Show, the Coffey County team won the state championship honors in canning, and the Ottawa County team the same honors in bread baking. Rice County stood second in both canning and bread baking, Harvey County third in canning, and Jewell County third in bread baking.

The members of the winning canning team, from the Prairie View Canning Club of Coffey County, are Jennie Mellor, Grace Baxter and Lydia Lepman. Mrs. Mellor is their local leader. Coffey County is proud of the record made by these girls. The editor of KANSAS FARMER first saw light in this county and we have a personal pride in the honor brought to our home county by the girls who won the state championship for demonstration work in canning. We spent a day in attendance at the Coffey County Fair last week, judging some of the live stock, and noted the beautiful banner given by the Wichita Wheat Show on exhibition in the section of the agricultural building devoted to canning exhibits.

The teams contesting at Wichita were the winning teams at the Kansas Free Fair at Topeka and the Kansas State Fair at Hutchinson. The canning teams were from Jefferson, Rice, Leavenworth, Coffey, Franklin and Harvey counties, and the bread-making teams from Ottawa, Jewell, Rice, Lyon and Pratt counties. The Anderson County canning team, which won first at Topeka, was sent to Sioux City, Iowa, to represent

Kansas in an interstate boys' and girls' club contest, so this team did not take part in the Wichita contest. Each of these demonstration teams consists of three girls of thirteen to sixteen years of age. A chaperone, in most cases the county club leader, accompanied each team.

"The people of Wichita certainly treated us royally," said one of the club leaders who had come with her team. Reservations were made for the girls and their chaperones at the Coronado and Hamilton hotels, just a block from the entrance to the fair grounds. Friday evening after the demonstrations were finished they were taken for an automobile ride around the city, ending at the Methodist Church where a fine banquet had been prepared. Several men of the town made short talks expressing their appreciation of the fine displays made by the club boys and girls, and special mention was made of the canning and baking demonstrations put on by the girls. Governor Allen and President Jardine of the agricultural college were present and spoke briefly. Then banners were presented to the winning teams by Walter P. Innes, president of the Wheat Show.

The standing of the mother-daughter canning clubs on the hundred-quart canning exhibits was as follows: First, Wichita; second, Pleasant View, Cowley County; third, Galt, Rice County; fourth, Elmont, Shawnee County; fifth, Jarbalo, Leavenworth County; and sixth, Earleton, Neosho County.

COUNTING THE CATTLE

Last week the Kansas Live Stock Association made a cattle census of the state. This count of the cattle is to furnish the basis of the work being done by the association along the line of furnishing its members and live stock men generally the best possible market information and advice. Arnold Berns of Peabody is given credit for suggesting the idea of actually finding out how many cattle in the different classes were in the various counties of the state. It was proposed at the Emporia meeting held October 4. A member of the executive committee in each county was responsible for the count in his own county. This enumerator was to report in detail on the number of beef cattle in his county, as near as he could ascertain: how many are stockers and feeders; how many must move to market at once, because of any lack of feed and water; how many will be moved back to the ranges for sixty to ninety-day feeding; how many will be moved back to the ranges for the winter; how many will be ready to come in the next twenty, the next thirty, the next forty and the next sixty days.

This census was not to be given out to the public. It was undertaken to get the information needed in the attempt to stabilize the markets. We have no information as to the success of the enumeration, but with the organization the Kansas Live Stock Association now has there is no reason why such a count could not be made quickly and with a reasonable degree of accuracy.

As intimated last week on this page the cattlemen propose to put representatives at the big markets to use this information in connection with information furnished by the packers. This co-operation has been promised and the representatives of the producers are now, figuratively speaking, in the lions' den. It remains to be seen whether those two interests can work together in good

faith for the common welfare. J. H. Mercer, of Topeka, secretary of the Kansas Live Stock Association, and J. O. Southard of Comiskey, the well known Hereford breeder and cattle importer and exporter, went to Chicago the first of last week to serve as market representatives of the association in the effort to co-operate with the packers in obtaining an even and steady run of killer cattle to market. Similar work in Kansas City was planned to begin later. The plan is for these market representatives to keep in as close touch as possible with all phases of the market situation and work with the packers in trying to get such supplies of cattle as are required to meet the demand for the various grades of beef in sufficient quantities, avoiding any tendency to congestion.

The consumer may feel that it is to his interest to have prices break, but it should never be forgotten that production will be reduced when it ceases to make a fair return. The consumer of food cannot expect production to be continued at less than cost.

This program of the Kansas Live Stock Association is a big one. It has the machinery, however, to do the things planned. The present effort is to be concentrated on the handling of killing cattle. As soon as the grass cattle are out of the way the stocker and feeder market will be given attention.

KANSAS AT SWINE SHOW

Kansas hogmen are getting into fast company when they compete with the best hogs produced in states to the north and east at the National Swine Show. This show was held in Des Moines, Iowa, September 29 to October 4. The Kansas Agricultural College sent five Poland China pigs, litter mates; four sows and a boar, and won four ribbons and fifty-five dollars in cash prizes.

Fred B. Caldwell, of Topeka, won second in the aged Poland China boar class, and H. B. Walter & Son, of Effingham, won third and fifth in the junior yearling boar class. Mr. Caldwell took first on get of sire also. This is an award of which to be especially proud, for a sire's claim to merit must largely be his ability to reproduce himself.

The agricultural college entries won fourth place in produce of dam, which is a most creditable winning in an important classification.

We are glad to be able in this issue to print a cut showing the first herd of cattle in Kansas to be placed on the federal accredited list. This work to wipe out tuberculosis should be supported by every breeder in the state. The government plan is working satisfactorily. Provision is made for making good the losses due to the condemnation of animals found to be infected. Restrictions against moving cattle from state to state are constantly becoming more rigid and exacting. The breeder who has his herd on the accredited list gains considerable prestige through advertising the fact and in addition can ship cattle across state lines with much greater freedom than the man who is not on the list. We hope to be able to report a rapid increase in Kansas accredited herds in the near future.

The agricultural representative in your county is not just a county agent, but your county agent. Part of his job is to assemble the information that federal and state agencies have to offer and to pass it on to you.

SELL LIVE STOCK, NOT GRAIN

Practice Diversified Farming with Crops Subsidiary to Live Stock

THAT the agriculture of the Great Plains region which includes Western Kansas cannot be built permanently around a system of grain growing, was the keynote of the address given by Dean F. D. Farrell of our agricultural college before the International Farm Congress. Farmers of this section must adopt greater diversity in their methods, depending more largely upon the growing of feed crops and the handling of live stock. The growing of grain crops to be sold from the farm is too uncertain to be depended upon as the chief source of revenue.

Dean Farrell pointed out that agriculturally the major part of the Great Plains in the past has been a land of alternating feast and famine. Periods of agricultural prosperity have alternated with periods of acute agricultural depression. This has been true chiefly because of the wide annual and seasonal fluctuations in rainfall and other weather conditions and the extensive adoption of a system of farming which has not been well suited to the uncertain climatic conditions.

The agriculture of the region has been built up primarily on the basis of grain production, wheat being the principal crop grown. This agriculture has proved unsatisfactory, except in certain favored localities, because of low yields of crops and frequent crop failures.

In the recent past the disillusionment of the Plains settlers who have failed to succeed in grain farming has led many of them to attempt to develop their agriculture on a different basis. Each year sees an increase in development in the new direction. To discuss the prospective agricultural development of the Great Plains it is not necessary to indulge in unsupported prediction; a description of the changes already taking place is practically sufficient. From these changes it appears that the future development of the region involves the general adoption of a more diversified system of farming with the crop production subsidiary to the live stock features of the business.

The discussion following summarizes Dean Farrell's remarks on the essential economic changes in the agriculture of the Plains area:

Success Based on Live Stock

The agriculture of the region, as a whole, will be based on live stock industries instead of crop industries. This will be somewhat in the nature of a revelation. The Great Plains area when the white man found it was a buffalo pasture. Later it became what was perhaps the world's greatest cattle pasture. Broadly speaking, the farmer has failed to transform successfully what formerly was exclusively a cattle country into a specialized crop country. Between these two extremes the agriculture of the region is gradually becoming established. Instead of agricultural specialization there will be agricultural diversity. It would perhaps be as unwise to attempt to return to exclusive specialization in cattle as to continue in the present prevailing practices. Some cash crops should be grown in a great many local-

ities, but, in general, crop industries should be subsidiary to live stock industries.

The kinds of live stock handled will vary in different parts of the region and under different local conditions. Much of the area will continue to be used primarily as a pasture for beef cattle. In many places the dairy industry will find a foothold. There will be opportunity for the successful establishment of the sheep industry in many places. Parts of the area may come to be important in the production of pork. In that part of the region where the beef industry now predominates, it probably will continue to predominate. There must be changes in the methods of beef production, however, in order that the industry may be made more reliable and more profitable. The dairy industry in many sections can be depended upon by relatively small land owners as a means of paying running expenses and making a living. In a farming system in which wheat production is secondary, the ex-

perience of state experiment stations and of many practical farmers is now showing the practicability of dairying based on small herds. In the Plains country sheep probably will find a place as consumers of waste materials which cannot be utilized effectively by other live stock, and as destroyers of weeds. Where there are specially favored spots, as along the stream courses where alfalfa can be produced successfully, pork production doubtless will find a place.

Most of the remaining virgin land of the Plains probably will be left unplowed. Plains experience has demonstrated that millions of acres of the virgin land of the region can be most effectively utilized as pasture. There can be no doubt that other millions of acres in the region have been plowed up which should have remained in its virgin state.

Feed Crops Sure

More feed crops will be grown and a smaller acreage will be devoted to crops grown for sale. This means that there will be more acres in forage and fewer

acres in grain. There is a wide variety of forage crops which can be grown successfully in the region, some being adapted to one set of conditions and others to other sets of conditions. These forage crops include the sorghums (kafir, milo, cane, Sudan grass, etc.), corn, alfalfa, sweet clover, and rye. It is not impossible that the Russian sunflower may prove useful over wide areas. Where native pasture is not available or where supplemental pasture crops are needed, use must be made of such plants as sweet clover and Sudan grass, each of which is making a place for itself in the agriculture of the Plains.

Feed Waste Material

It will be necessary to utilize as live stock feed more of what is ordinarily regarded as waste material. Practicable utilization already is being made in many instances of volunteer grain, corn fodder, straw, and even Russian thistles, and there are indications that the wild sunflower will be found worth harvesting for feed.

Store Reserve Supply of Feed

More feed will be stored during years of plenty for use in winter and during periods of crop shortage. The Plains farmer must make very extensive use of the silo as a means of storing feed against hard winters and protracted drouth.

There must be developed a better relationship among the three chief classes of agricultural resources of the Great Plains—the grazing lands, the dry-farmed lands, and the irrigated lands. Too often in the past each class of land has been operated by itself without much reference to either of the others. The range lands can be more effectively utilized when their utilization is associated with that of dry-farmed lands and also with the irrigated lands of the region. The irrigation farmer, while occupying an almost negligibly small area of the Great Plains, nevertheless can be very helpful to both the dry farmer and the range stockman, and at the same time benefit himself. Relationships among these three classes of lands can be developed which will improve materially the utilization of all.

It is apparent that more far-reaching plans must be made by farmers of the western part of our state and of the Plains area generally if there is to be the best development of these important features of agricultural practice pointed out by Dean Farrell. "It will be increasingly necessary for the farmer in these regions to project his plans far into the future," he said in conclusion. "Live stock industries cannot be successfully developed on a one-year or two-year or any short time basis and permanently successful agriculture in the Plains country now appears impossible without live stock industries. Before long-time plans of development are placed into operation there must be a radical change in the prevailing point of view with reference to Great Plains agriculture. The essential thing in the

(Continued on Page Five)

Value of Purebred Sires

IN EVERY instance where good purebred sires have been consistently used the results have been highly satisfactory. At the second Sni-A-Bar Farm demonstration held at Grain Valley, Missouri, October 3 the lesson of the pure-bred sire was again most strikingly shown. Six years ago the late W. R. Nelson placed a bunch of ordinary red cows from the stockyards on this farm and White Shorthorn bulls of outstanding merit have been used on these cows and their female offspring.

The different groups of cattle shown, each succeeding cross of the pure-bred sire being yarded separately, vividly pictured to the eye the rapidity with which improvement takes place. In view of the fact that such results can be expected with absolute certainty if the animals are given proper care and feeding, the wonder is that grade and scrub sires have not long since been sent to the discard.

The value of pure-bred sires was discussed at the Sni-A-Bar farm meeting by John B. Tomson, president of the American Shorthorn Breeders' Association. He said:

"In developing the improved breeds of live stock, the breeders have put great store on the sires and no one has made a success of the breeding business but by the use of high class sires. And today the best breeders do not hesitate to pay fabulous prices for untried males giving promise of being good sires, knowing well that the best are what they need. The subject assigned me 'The value of good sires to the farmer' reminds me of the question asked by a teacher of a district school near my home. The fourth grade arithmetic class were at recitation, and the teacher asked Jimmie the value of one thousand dollars. Jimmie pondered over the question awhile and shaking his head, answered, 'I don't know.' 'Well,' said she, 'tonight you ask your father the question and tell us tomorrow the answer he gives.' The following day when the class was called, the teacher called on Jimmie to give the father's definition of the value of one thousand dollars. Jimmie arose from his seat, hesitated a moment then blurted out, 'father said it was a 'Heluva' lot of money.'

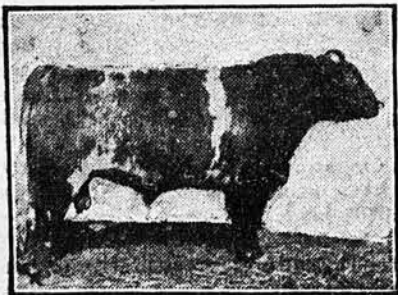
"I think father's guess on the value of one thousand dollars is a very good rough estimate on the value of a good sire. You have seen the get of a number of good sires here today, some from dams of the plainest order, others from dams with one or two good crosses, and you could plainly see a wonderful improve-

ment in each added cross of good blood. This under conditions similar to those existing on nearly every farm, makes it a most practical demonstration of the value of a good sire. Colonel Nelson's great ability to correctly foresee the wonderful possibilities of the Southwest and also to understand the short sighted methods of too many farmers, prompted him to start this wonderful object lesson, and I am free to say, it is sure to teach many the value of good sires, and will add untold wealth to the farmers of this vast territory.

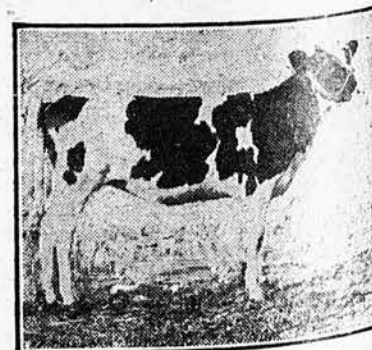
"A large per cent of the farmers are 'penny wise and pound foolish' in purchasing sires for use on herds and flocks and consider the paying of any amount above the low price, useless extravagance thereby narrowing their opportunity for securing the individual they most need.

"In reality the millionaire is the only man able to own and use a poor sire and he could not stand it very long. I know of but one way to secure a good sire, choose the one best suited to your needs and buy him, if you do not have the price sell part of your females, and make up the amount. Better raise a few good ones than a lot of poor ones. There will be more net profit in the end. Now I do not mean to convey the idea that the price guarantees the potency of the sire, but rather that the price should be a secondary consideration, and that a few dollars on the get will soon pay the difference in the cost, and the added value to the she stuff retained for breeders is continuous. Remember that your investment in sires is a permanent investment and although you may not use one but a few years, the blood in the females by him breeds on and its influence will be noticed for a number of generations, therefore you should be very careful in selection.

"The markets have ever paid a premium for animals approaching perfection in form and quality, and the nearer perfection the greater the premium. Consumers are becoming more exacting in their demands and we must furnish them what they want. There is no sire too good for the farmer to use, but there are thousands in use that are not good enough. 'A good bull is half the herd, a poor bull all of it,' perhaps this has been used until threadbare so I put on a patch, and now it reads, a good bull is half the herd, see to it that your bull is the better half. Let us profit by the lesson we have learned at Sni-a-Bar, and use nothing but good sires from now on."



MARSHALL CROWN
First prize senior yearling Shorthorn bull at Kansas Free Fair. Shown by Tomson Bros.



JOHANNA BON EUR JULIANNA INKA
Shown by U. S. Disciplinary Barracks, Leavenworth. Junior Champion female, Topeka and Hutchinson.

FARM TENANTRY INCREASES

Menace to Farm Life Conditions and Stability of Nation

Governor Allen's presentation of the farm tenantry problem before the International Farm Congress held in Kansas City in connection with the International Soil Products Exposition precipitated a free-for-all discussion by delegates which waxed warm until it was of necessity shut off by the chairman in order to carry out the remainder of the program for the afternoon. The interest taken by the delegates is an indication of the seriousness of the problem and the difficulties in the way of its proper solution.

Land owning by large classes of the people is not only a sure cure for bolshevism but is an essential to the well-being and perpetuity of the nation, according to Governor Allen and other speakers at the meeting. A country-wide soil producers' union is also necessary if the farmers are to get their dues and to combat the organized forces that are unfriendly to them, several of the speakers declared.

"Farm tenantry is one of the oldest questions in the world," said Governor Allen in the course of his address. "Every country has been menaced by its danger, and the things I have been suggesting are not the outcroppings of a radical. They are things that have been tried by other countries in the attempt to solve the tenantry problem. Many of us have not realized that it was a problem in Kansas. I think I myself have been guilty many times of making the statement that Kansas is a state of home-owners. On a train not many months ago I fell in company with some public men from Illinois. One of them, a United States Senator, said: 'Our difficulty is that more than half of our land owners do not live upon the soil.' I replied that we have no such difficulty in Kansas. We are a state of home-owners. 'You had better go home and look up your figures,' said the senator. I looked the matter up and found that we now have approximately seventy thousand farmers who are farming the farms of other people, and that is nearly 50 per cent of the farmers of this state. Land tenantry is rapidly increasing. Twenty-five years ago a trifle over 83 per cent of our Kansas farms were tilled by those who owned them.

"I would not have you understand that I am criticizing the man who has lived on a farm, improved it, making the contribution of a farmer's life, and then moved to town in order to live a little easier in his declining years. Neither am I opposed to the man who owns a large tract of land and does not live upon it but improves it well and sees that it is well developed and kept up in fertility. I am against the man who buys a farm because he knows it is a safe investment and keeps it without farming it. I am for land ownership, but I am for the man realizing that the land he owns is a sacred trust and should be given the highest attention. A man came into my office last winter—an old friend of mine—and said, 'You are crazier than I thought you were. Your farm tenantry plan would take away a hundred thousand acres of land that I own.' I told him my farm tenantry plan would not take an acre from anybody. He explained that he belonged to the class I had been denouncing. He said, 'I bought a lot of land out west several years ago for about five dollars an acre and now it is worth a great deal more than that.' I asked him what he was doing with this land. He replied, 'I don't have to do anything with it. The increase in value is bringing me enough profit. I am going to keep that land until it is worth fifty dollars an acre.' I said to him, 'You have no more right to take land and hold it until the hunger of the world makes it worth fifty dollars an acre than you have to take

all the water in the country and hold it until thirst compels people to pay you an exorbitant price for it. You should divide that land into farms and put it where a man can live on it, produce from it, and love it, build a home on it, and cherish it with his blood.' A man does not rally around his rented farm, any more than he rallies around his boarding house, but he will rally around his home.

"I saw the tide of Socialism arise and break three times in France while I was over there, and every time it broke against the land owners. If France had been in the condition of Kansas and many of the states of the Middle West, the result might have been different. In France 90 per cent of the farmers own the land they till. Five million men in that republic own farms and live on them.

"In England when the war opened they had great deer parks and game preserves for the rich, but no land for the poor. The poor people said, 'We will fight the war on the condition that when the war is over the land shall be occupied by agriculture.' The wise premier promised that if they would stand by they would be given a square deal when the war was over. They are now advocating a plan to buy from the rich on easy terms the land they do not use and sell it to people who want to use it. Ireland was until a few years ago owned by seven hundred absentee landlords and the tenants broke the collectors' heads when they came for the rent. As the result of the adoption of a wise land policy, eight thousand people now own what seven hundred once owned. In Denmark a very few people once owned all the land, but today 98 per cent of the farms of Denmark are owned by those who till them, and Denmark is the only agricultural country in the world where the farming population is increasing. Canada has passed a law providing that every soldier is to have two hundred acres of land and a loan of \$2,500 in cash without interest to get started. I feel certain that in ten years we will see a better condition in Canada as a result of this kindly action on the part of the Canadian government.

"I would have the man who desires a loan from the state investigated to find out whether he were sober and industrious and likely to succeed. Then I

would examine into the value of the land to find out whether he was paying too much or not. Then if the man was right and the land right, I would loan him up to perhaps 90 per cent and let him pay it back on easy payments in the same way that building and loan payments are made. I would, however, have the state say to the man who has had a poor year and cannot make his payment, 'We will give you another chance and wait until you raise another crop.' Perhaps many would lose out, but I believe many others would succeed, and it would furnish an opportunity to bring into a state like Kansas perhaps a hundred thousand farmers.

"Many owners of large farms seem to be afraid that some of the legislative action proposed is going to take land away from them. Nothing of that kind has been contemplated, but the land tax amendment passed in Kansas last winter does discriminate against the man owning a large farm which is not improved or cultivated. It exempts farm mortgages from taxation. If a man has to pay interest on the money he borrows, taxes on the mortgages, and taxes on the land, he cannot meet all his obligations. The holder of the mortgage usually manages in some way to stick the land owner for the mortgage tax. I do not care who pays it, it is double taxation, and it is not right and not just.

"In Kansas 78 per cent of the taxes paid in the state are paid by the men who own land and its improvements. Half the property we own in Kansas today is intangible property, but half of this escapes taxation.

"In that same amendment there is also power to classify property for taxation. With this power the legislature should exempt from taxation a part of every farm home. You may wonder why. There is a reason. Here is your farm home which you love. You have put trees on it and improved it, and right alongside is the farm which I have not improved at all. I have spent no money and no labor upon it. The value of yours is greater because of the improvements you have put upon it. I put a floater upon my farm who burns the fence posts for fuel and cares nothing for the farm, the school, or the community. His daughter sits and looks out of the window and wonders how long it will be until she can get a job as a

telephone girl in the city. The man himself is planning to move to town as soon as he can. They have no expectation of becoming members of your community. The assessor comes along and looks at your farm. 'This is a fine farm,' he says; 'it is worth \$70 an acre for taxation purposes.' He next comes to my farm which has run down under the care of my succession of tenants, and says, 'This farm is worth only \$25 an acre.' You have been penalized because you love your farm and have improved it.

"You may wonder what effect the partial exemption of the home from taxation will have upon land tenantry. When you say to me who merely own some acres in order to get the unearned increment from them, 'You have got to pay higher taxes on that land,' I am going to look around for some more profitable investment. Holding this land is not going to pay any longer. The Scully Estate owns 60,000 acres of land in Kansas upon two principles: They never sell any of it, and they never improve any of it. Such a law would say to the Scully Estate, 'The picnic is over. Kansas is going to help by her taxation system the man who owns land to till it and improve it.' When you have started a program like that which will constantly grow and which will encourage the man to till his small farm, you discourage speculation in land."

Lending Kansas school funds at a low interest rate to buyers of small farms was also advocated by the Governor.

"We are talking a great deal about bolshevism," said Governor Allen. "Men call anything that scares them 'bolshevism.' Bolshevism in America is only a new name for an old disease, and is the result of discontent and agitation by the agricultural I. W. W.'s who are not stabilized in the soil. You can fight this spirit of bolshevism in only one way, let the man plant his own home. When a man builds his own home he loves it. Build this country out of farmers who own and love their homes and we need not fear bolshevism in any form. I realize that to carry out this program we must have the support and approval of such men as you delegates to the International Farm Congress represent. These men are more interested in it than anyone else."

Sell Stock, Not Grain

(Continued from Page Four)

required point of view is that the agriculture must be placed upon a new basis and that development must proceed over a long period of time.

"Public support, both moral and financial, of the better Plains agriculture, is essential. The time requirements of developing this agriculture, as already indicated, are greater than those of the agriculture which has been attempted and which has not been satisfactory. The change from the one to the other on a large scale will not be easy. The foresight, determination, equipment, time, and capital required will each be very considerable. It is important that all people who are interested in the development of the agriculture of the region bear this in mind, and maintain a sympathetic point of view toward the up-building of stable agricultural practices."

Green tomatoes may be put under cover when frosty nights come and many will ripen.

Onions keep best in an airy, dry place. A moist cellar is not a good place. They decay quickly.

Watermelons buried deep in wheat or oats will sometimes keep until Thanksgiving or even Christmas.

Stock Breeding Definitions

THE following definitions have been adopted by the United States Department of Agriculture for use in the "Better Sire—Better stock" campaign which it will conduct in co-operation with the various states beginning October 1.

Purebred: A pure-bred animal is one of pure breeding, representing a definite, recognized breed and both of whose parents were pure-bred animals of the same breed. To be considered purebred, live stock must be either registered, eligible to registration, or (in the absence of public registry for that class) have such lineage that its pure breeding can be definitely proved. To be of good type and quality, the animal must be healthy, vigorous and a creditable specimen of its breed.

Thoroughbred: The term "thoroughbred" applies accurately only to the breed of running horses eligible to registration in the General Stud Book of England, the American Stud Book, or affiliated stud books for thoroughbred horses in other countries.

Standardbred: Applied to horses, this term refers to a distinct breed of Amer-

ican light horses, which includes both trotters and pacers which are eligible to registration in the American Trotting Register. Applied to poultry, the term includes all birds bred to conform to the standards of form, color, markings, weight, etc., for the various breeds under the standard of perfection of the American Poultry Association.

Scrub: A scrub is an animal of mixed or unknown breeding without definite type or markings. Such terms as native, mongrel, razorback, dunghill, piney woods, cayuse, brocho, and mustang, are somewhat synonymous with "scrub," although many of the animals described by these terms have a certain fixity of type even though they present no evidence of systematic improved breeding.

Crossbred: This term applies to the progeny of pure-bred parents of different breeds, but of the same species.

Grade: A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred, but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, but through progressive improvement become a high grade.



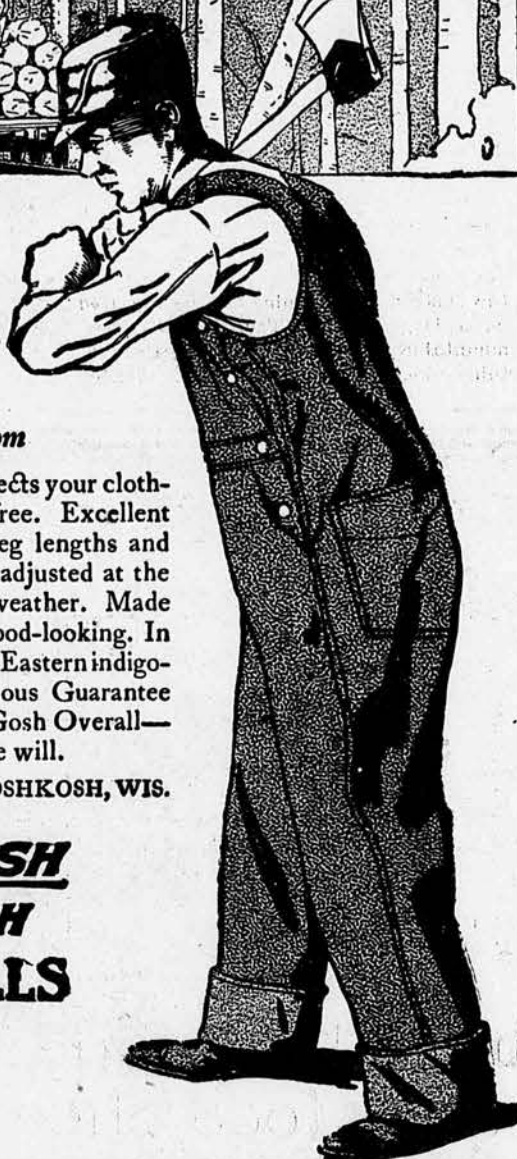
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Kansas Farmer

READ KANSAS FARMER'S CLASSIFIED
ADVERTISING PAGE FOR READY BARGAINS

GENERAL FARM ITEMS

FRESH cabbage from the home garden may be had easily until late winter. Only solid heads of the late varieties should be stored. A simple method of storage is to pull the heads with the roots attached and bury them upside down in a shallow trench. The loose outer leaves should be wrapped closely about each head. About three tiers are placed in the trench, with the second and third tiers alternating between the roots of the first. The pile is then covered with earth and straw.

Sweepstakes Trophy to Kansas

In addition to winning the grand prize at the International Farm Congress and Soil Products Exposition held in Kansas City recently, Kansas won seven other special prizes. This is the fourth time Kansas has been winner in the contest of states and provinces. The exhibit which won the sweepstakes for the state was prepared, as heretofore, by Bruce Wilson, of the Department of Agronomy, Kansas Agricultural College.

Many states and provinces competed. Manitoba won second place and Oklahoma third. The total number of points awarded to Kansas by the judges was 1,190, a lead of sixty-one points over Manitoba, which had a score of 1,129.

The winning of the big contest keeps Kansas far in the lead at these annual expositions. In 1915 and 1916 Kansas was first. In 1917 it was second. Last year it tied with Nebraska for first place.

In addition to the big championship prize, Kansas won first place on corn, first place on sorghums, second place on fruit, second place on small grains, third place on vegetables, and third place in the contest for the most artistic booth.

Kansas had no competition in the exhibit of experimental work. This exhibit displayed to the eye in most striking and convincing manner many of the valuable results obtained at the Kansas Experiment Station.

Eight trophy cups, valued at \$975, were won by the Kansas exhibit. A special ribbon was also presented by the exposition for the composite farm which

Mr. Wilson designed as the feature of the Kansas exhibit.

Manitoba ranked next to Kansas in awards. It was second in the general contest, first in small grains, first in vegetables, and first in the contest for the most artistic booth.

The exhibit prepared by Mr. Wilson for Kansas showed, besides the composite farm, a products map of the state and examples of the principal agricultural products of Kansas.

Kansas is fortunate in having a man of Mr. Wilson's knowledge of agriculture, artistic taste, and capacity for hard work, for to him must go a large measure of credit for placing Kansas at the top four times out of five in the International Soil Products Exposition.

"This is more than just a local honor—this winning of the sweepstakes prize at the exposition," says an editorial writer in the Kansas Industrialist. "It puts Kansas agriculture in the front rank in the minds of agriculturists all over the world. For agriculturists have attended these expositions from every continent in the world, and at none of them have competing exhibits been confined to states of the United States. Kansas has had strong competition. It has required a man of just Bruce Wilson's abilities to present the agriculture of this state in such a way that it commanded the attention—and the decision—of the judges."

Farmer's Business Home

Plans have been under way for some time for the erection of a farmers' permanent headquarters at the national capital which is to house the accredited representatives of farm organizations and care for their activities. The "Temple of Agriculture," as the headquarters has been called, has been endorsed by the National Grange and the National Farmers' Union thinks so well of the plan that it has by unanimous vote in convention assembled pledged 25 per cent of its annual income to the fund. Pending the raising of funds necessary for the Temple of Agriculture, the board will occupy its recently pur-

Rainfall of September, 1919

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

3.00	0.28	1.98	8.82	8.74	7.17	9.02	7.29	5.72	6.32	2.38	2.71	1.40
1.87		3.00	5.14						3.26	3.12	2.67	5.61
N. report	2.19	5.49	N. report	6.19	8.56	4.15	3.03	4.40	3.19	1.23	2.05	2.05
1.47	N. report	5.30	6.93	3.32	N. report	1.68	1.92	2.96	N. report	2.50	2.22	1.20
3.32	5.52	5.57	8.91	1.50	N. report	0.74	1.43	1.88	1.26	1.14	1.76	N. report
5.12		4.23	1.55	1.00		1.07	1.69	4.50	0.78	1.77	1.87	N. report
6.04	3.24			2.14	3.20		0.16	0.15	N. report	2.40	0.80	2.36
3.53	2.84	3.19	N. report	1.01	0.25		0.32	0.23		1.45	N. report	1.94
2.25	N. report	3.30	0.48		0.13	0.83	0.38	0.18	0.07	0.37	0.82	0.80
2.65		1.51	1.30									N. report

THIS was one of the warmest Septembers ever experienced in Kansas, with record breaking rains in the north central and many western counties, but a severe drought all month in the south central and southeastern portion of the State. Great downpours on the 17th and 18th in the Solomon and Republican valleys started disastrous floods down those rivers, while about 20 counties near the Oklahoma border had less than an inch of rain all month.

Corn and grain sorghums matured rapidly in the eastern two-thirds of the State the fore part of the month and by its close most of the forage crops were either in the shock or silo, except in the extreme western counties, where cutting was well under way. Comparatively little progress was made in getting ready for fall seeding until after the rains fell the third week of the month. In the south central and southeastern counties it was impossible to get a satisfactory seed bed and a great deal of plowing was deferred until October in the hopes of getting rains then. In the three northern tiers of counties and the western third of the State, where soil conditions were fine after the rains fell, from 10 to 25 per cent of the wheat was planted and when the month closed was coming up nicely.

In the eastern two-thirds most of the thrashing was finished, but in the northwestern portion about half of it was not done when the month closed. Broom corn pulling was practically completed in the southwest and apple picking well begun in the Arkansas Valley and the eastern counties.

chased four-story dwelling located less than four blocks from the White House grounds.

Money is coming in from many parts of the country, particularly from the states of Washington, Pennsylvania, and Georgia, where active money-raising campaigns are under way. The recent tour of the West by Senator Gore, Dr. Spillman, and four of the Board's members, resulted in the most intense enthusiasm on the part of farmers, who at the several meetings held subscribed or paid in over \$30,000 to John A. McSparran, treasurer of the building fund.

The Chamber of Commerce of the United States has just purchased what many people consider the finest available site in Washington, directly opposite the White House, on which the organization of the business men of the country plan to erect a million-dollar structure.

The new home of the National Board of Farm Organizations is two blocks from the business men's new location. The two organizations no doubt will get to know each other very well one of these days.

People who say that the purposes of the two organizations are dissimilar are mistaken. They are identical—each organization is intended to advance the interests and promote the welfare of its members.

The National Chamber of Commerce is a powerful and purposeful organization. It's the kind that has a smile for an enemy and carries a punch up its sleeve. Whenever occasion offers it gladly acts in the role of guide, philosopher and friend to the government. It takes money—plenty of it—to support the National Chamber of Commerce. Who can doubt that this money is seed which yields a bountiful harvest?

The organized farmers of the nation who now are building a strong and permanent federation will do well to study carefully the plan of organization and the work of the National Chamber of Commerce.

Must Adjust Meat Production

"Our live-stock industry must be so adjusted that the people of this country may obtain wholesome meat at fair prices and this must be done without discouraging production."

That statement was made before the National Association of Meat Packers in session at Atlantic City, by Dr. John R. Mohler, Chief of the Bureau of Animal Industry of the United States Department of Agriculture. Ample production, he continued, is the most important factor leading to prices that the consumer is willing to pay and pay cheerfully. The public must have confidence in the method of production and distribution, and consumers are entitled to full information, he said, regarding the growing and marketing of live stock and the distribution of the meat and its products.

Control and eradication of animal diseases, Dr. Mohler asserted, are vitally important factors in ample production and of liberal consumption and proper nutrition as well. If the live-stock men of the country, he said, on top of their other problems, had to contend with pleuro-pneumonia, foot-and-mouth disease, surra, rinderpest and other animal scourges that the United States Department of Agriculture has succeeded in keeping out of this country or eliminating as soon as they appeared, production certainly would fall and consumption would be curtailed by reason of high prices necessary to cover the risk of production. Fortunately, he continued, the list of diseases mentioned may be considered a problem already solved. They do not exist in this country, and the Bureau of Animal Industry is on the alert to keep them out.

"As to most other animal diseases," he continued, "I am now able to say from a scientific point of view that victory against them is in sight and in certain cases eradication is practically complete. There is still need for abundant field and laboratory work, thorough supervision and energetic inspection, but we are confident that it is merely a

matter of time before every serious disease must yield to the weapons of science."

Dr. Mohler backed up this statement by citing what has been accomplished with a number of serious diseases. As late as 1906 cattle scabies was prevalent in about 1,300,000 square miles of the United States. Now the country is practically free from this disease. In 1906 about 1,800,000 square miles were infested with the sheep scab disease. Now only about 200,000 square miles remain infested and at the recent rate of progress the next year should practically see the end of sheep scab. In 1906, the cattle fever tick occupied a domain of about 700,000 square miles. This has now been reduced to less than 300,000 square miles, and the tick is doomed to practical extinction within the next four years. The hog-cholera campaign, he said, has been of a guerilla character, but the use of anti-hog cholera

serum, especially in connection with the virus, is a definite means of preventing further outbreaks of serious character. Foot-and-mouth disease has appeared in the United States at six different periods within the last half century, but has been eradicated with a total of cattle infected during all of these six periods of less than 100,000—a relatively small figure when compared with 67,000,000, the approximate number of cattle in the United States this year.

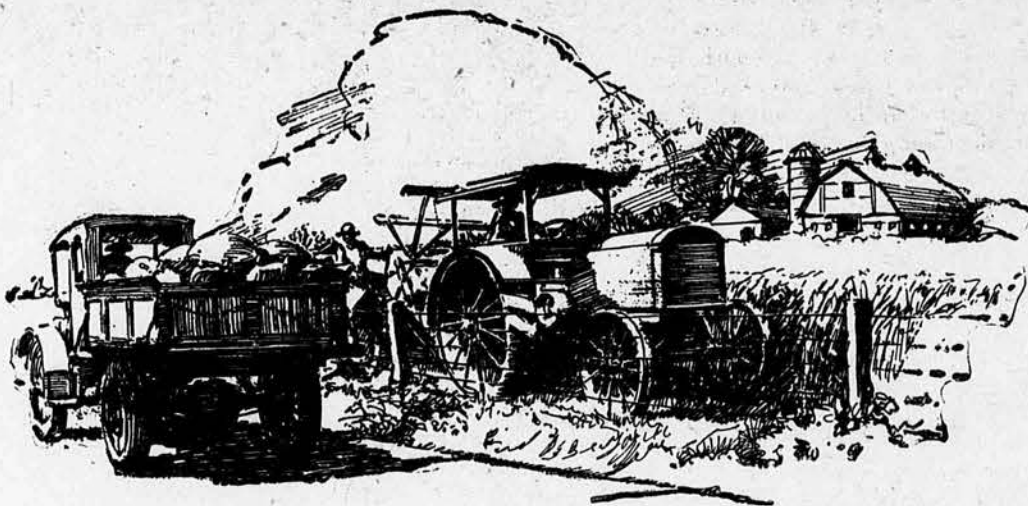
"To eradicate tuberculosis from live stock in the United States," Dr. Mohler continued, "is a very extensive undertaking and to some may seem endless. We do not consider it so. We know definitely that tuberculosis can be eradicated from small areas and what can be done on farms or in an area as large as the District of Columbia can be repeated on a larger scale. There is no insurmountable barrier to the eradication of tuberculosis from the entire United

States. Actual accomplishment depends necessarily on public enlightenment and on public co-operation, also on adequate facilities and trained men to do the testing properly. This generation probably will not see the end of the campaign, but others will follow and, we hope, will push the work to completion."

Place squash on shelves in a dry room near the furnace or in a warm attic room. They must not be in a damp or frosty place. They will stand a great deal of heat and dry air, but little moisture. If you want squash or pumpkins to keep well, handle them carefully so they are not bruised.

A drain tile set over each plant is a good method of blanching celery. Celery for winter storage should not be blanched before putting in the cellar.

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Breeders and dairymen cannot afford to continue to ignore the health and care of the babies born in the herd. We cannot expect puny calves, raised in hot houses, to grow into strong, healthy cattle with sufficient constitution to withstand the tremendous strain to which the twentieth century cow is subjected. Any thing or place is not good enough for the calves. They must have the best.

Irrigation Congress Meeting

THE boycott of labor and return of the farm to a family production basis was the radical solution of the farm labor problem suggested by H. B. Walker, irrigation engineer, at the State Irrigation Congress in Hutchinson. As the decreased production of foodstuffs resulting from such a program became acute the labor problem would adjust itself by the families of laboring men settling upon and cultivating land that had necessarily fallen into disuse, he said.

All delegates at the convention voiced the opinion that the demand of organized labor for shorter hours and more pay was the most serious problem with which the farmer, especially the irrigating farmer, is now faced.

"We can't have the farmer work eighteen hours to feed the laborer on a six-hour day basis," Mr. Walker continued. "Much of the labor shortage today is not due so much to lack of men as it is to the recent rapid decrease in the working hours, together with inefficient services rendered."

"Intensive one-family farming must come into more general favor. By this it is understood that the farm will be operated by the immediate members of the family on a large or small scale, depending primarily upon the size of the family. This affords an interested, independent, operating unit with the same point of view. It would be the most efficient productive basis for the greatest net profit to the family."

Grow Vegetables at Home

Why should Kansas people ship in onions from Texas, and potatoes from Colorado, and cabbage from somewhere else, and fruits and berries from everywhere, when these things can be grown here so much cheaper and better?

The above question was put by nearly every speaker on the floor. The farmers of the Arkansas Valley are spending thousands of dollars in shipping in fruit and berries and vegetables that ought to be grown at home.

"We ship in potatoes from Colorado, onions from Texas, celery from Michigan, grapes from New York, and apples from Idaho, and we ought to be growing all of these things and shipping them out," said E. E. Frizell of Larned. "You'll find farmers are even buying creamery butter and using tinned milk. If we keep on growing wheat the way we do it'll come to a question of either irrigate or emigrate."

"It is a serious matter when we have to pay from 60 cents to \$1 an hour for ordinary farm labor and when we pay common labor \$6 a day to help fill silos. The labor shortage is a problem. We must divide our big farms, cut them up so that there will be families on at least every quarter section. If we do this we will get more farm labor in the community."

Mr. Frizell, who is president of the State Irrigation Congress, is a firm believer in irrigation. He practices what he preaches, too. For thirty years he has been irrigating on his farms in Pawnee County.

"No expensive plants are required," he argued. "We have a great reservoir of water stored under us that need be lifted only a few feet. We can have cheap pumping, and transmission lines are bringing us electric current for pumping. We must cut up our farms, get more families in, get the land irrigated and intensively cultivated, and have diversified crops. We will solve the labor problems as we cut up the farms, for the more families we bring in the more farm labor will be brought to our communities."

Develop Small Plants

Don't try to develop deep water irrigation with expensive plants, at least not for the present. Devote the energies to pushing irrigation in the shallow-water country. That is the argument presented by G. S. Knapp, state irrigation commissioner. "Then, when we have the land under irrigation where

there is shallow water and a short lift, there will be plenty of time to encourage the more expensive deep well plants," declared Commissioner Knapp. "What we need now is the family plant, the small, inexpensive plant pumping from the shallow water underflows which will make it possible to grow in Kansas the things we are now buying."

One of the wittiest addresses at the congress was that of Prof. Albert Dickens of the State Agricultural College, a specialist in horticulture. "There isn't any question about what can be done by intensive cultivation in this valley, with irrigation," said Professor Dickens. "The illustrations are to be seen on every hand. You don't need to go a mile from Hutchinson to find where 1,800 bushels of onions to the acre have been grown in time to catch a market at 5 to 7 cents per pound. And you don't have to go a mile from this town to find celery growing that is as fine as any produced anywhere. With water and manure and work you can grow gardens anywhere and make money with them."

Farmers Prefer to Grow Wheat

"The trouble is, our farmers as a rule would rather grow wheat than do intensive farming," he added. Professor Dickens said there were farmers in Finney County, up the valley, who were finding it profitable to irrigate even kafir at 70 cents a bushel and lift water 130 feet. "Just figure the amount of silage that could be grown if this entire valley from Hutchinson to Garden City were irrigated."

"If we could have put just a little water on the ground at the right time the first of July and again about the first of August, there would have been one hundred million bushels more of corn grown this year in Kansas."

Increase Fruit Production

"And we could have 100,000 additional boxes of apples this year from our orchards if we had just put a little water on when we needed it the first of July. And we could have done so just as well as not. The water is here, millions of gallons of it, and just a small expense in pumping would do the work."

Professor Dickens hinted at the great industry there might be in this Arkansas Valley just producing apple and grape juices to supply the demand for fruit drinks. "There is no limit to the amount of fruit juice which could be pumped out of this Arkansas Valley," he declared. "We have the potash in the soil, we have the sunshine, we have the water, we have cheap pumping. All we need to do is to make up our minds to do it. You can grow all the garden truck that Kansas eats and all the vegetables to feed this state, and not a car need be shipped in from outside. As to melons, there aren't any better grown than this valley can produce."

Fail to Keep Plants Up

One of the great difficulties about getting irrigation generally introduced is the fact that it is not absolutely needed all the time, A. L. Stockwell, a big alfalfa grower and sheep raiser of Pawnee County told the congress. "We get too hopeful in the spring, when it looks as if it is going to be a wet year," he said. "We neglect our irrigation plant, the pumps get out of fix, the ditches get weedy, and then when we find we should have been pumping water we don't start until it's too late."

Mr. Stockwell admitted that he hadn't run his pumps a single day this year. But he is a firm believer in irrigation and in more intensive farming. He does not grow wheat, he said, but prefers alfalfa because he can keep his help employed the year around and the labor does not have to be employed in spurts, as in a wheat harvest. "We ought to grow more diversified crops in this valley," declared Mr. Stockwell. "We ought to have more row crops and more fruit. Cherry orchards would pay well in this valley. Blackberries would make a profitable crop. And melons are a good crop."

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Living on Five Acres

E. J. Macy, county farm agent of Sedgewick County, said he had been asked whether a man could make a living by farming five acres intensively. "I investigated, and I can say that a man can make a good living even this year of 1919 on five acres and less," declared Mr. Macy. "There are any number of truck growers around Wichita making good livings on less land than that."

That irrigation pays was proven by figures presented by Mr. Macy which he had gathered from farmers who irrigate. One man told him that corn he had irrigated would make from fifty to sixty bushels an acre, while other corn not irrigated would not make fifteen bushels. His irrigation means thirty bushels an acre more for him at the lowest estimate.

"Another man told me that he had paid for the cost of his outfit, a one-thousand-dollar outfit, every year in the increased yield of his crop," said Mr. Macy. "Irrigation produces as much from one acre as a man will grow on five acres ordinarily."

The Right to Strike

Senator A. B. Cummins of Iowa has introduced the railroad bill in the Senate, which is the result of the study of all phases of the railroad situation by the special sub-committee of the Senate Committee on Interstate Commerce, and the bill is generally considered the leading plan for the disposal of the railroads, and their future. It is a private ownership, government control measure, with the control measures proceeding along advanced lines of political and economic thought, including compulsory federal incorporation, compulsory grouping into not less than twenty nor more than thirty-five groups, to eliminate the complexities of weak roads and strong roads, and the creation of a new transportation commission, to function along with an interstate commerce commission with enlarged powers, to control both rates and wages. Common use of rolling stock, tracks, bridges, terminals, etc., is provided for. Tremendous as are the issues involved in this bill, the attention of the public has been centered largely in one small paragraph which has been termed an "anti-strike proviso." There is so much comment on this feature that all the people should know just what the comment is about, so we reproduce here the exact text of the "anti-strike" paragraph:

If two or more persons enter into any combination or agreement with intent to substantially hinder, restrain or prevent the movement of commodities or persons in interstate commerce; or enter into any combination or agreement which substantially hinders, restrains or prevents the movement of commodities or persons in interstate commerce, such persons so combining and agreeing shall be deemed guilty of a conspiracy and shall be punished by a fine not exceeding \$500 or by imprisonment not exceeding six months, or by both such fine and imprisonment. Provided, that nothing herein shall be taken to deny to any individual the right to quit his employment for any reason."

Fur Animals Decrease

American trappers receive yearly in the aggregate many millions of dollars for their fur harvest, which up to the moment they set out to gather it does not cost them a single effort. Recently the supply of peltries has been decreasing at an alarming rate. Raw fur buyers representing all parts of the country place the decrease at from 25 to 50 per cent during the last ten years. There are no longer any virgin trapping grounds. Even in Alaska the two most important fur-bearing animals, the beaver and the marten, have become so nearly exterminated that they are now being protected by a closed period.

Laws protecting fur-bearing animals are designed to keep a steady flow of peltries coming to market year after year, thereby bringing trappers a reliable income and giving regular employment to thousands of people engaged in dressing skins, manufacturing garments, and distributing them through the various avenues of trade.

A general protest comes from raw fur buyers against traffic in unprime skins. The losses caused by killing fur animals when their pelts are not prime are enormous.

An educational campaign is greatly needed to prevent this waste and to perpetuate our fur-producing resources.

The information contained in a recent bulletin on laws relating to fur-bearing animals by the U. S. Department of Agriculture will be instrumental in promoting judicious and harmonious action in this important matter. Copies of this bulletin may be obtained free from the Division of Publications, Washington,

Beware of Promoter

New and clever schemes for inducing the investing public to part with its savings, its Liberty bonds and War Savings stamps in exchange for worthless stocks or those of speculative or doubtful value constantly are being developed. One of the latest of these was disclosed recently in the trial of Ellsworth J. Green and his son, E. H. Green, of Oklahoma City.

This particular scheme was the means of landing the Greens in Leavenworth prison for five-year terms, but not until many hundreds of investors lost their savings.

The Greens through the Great Western Guarantee Investment Company of Oklahoma City, promoted five oil companies. The original sales price of the stock in these companies was \$1 a share but by a clever resale agreement purchasers were guaranteed that the Great Western Company as fiscal agent would resell the stock if desired at the end of six months to net the investor \$2 a share or a profit of 100 per cent.

As the date to fulfill this agreement drew near, stockholders were advised that the price of the stock had reached \$5 a share. Naturally if they came to believe the stock was worth \$5 they declined to accept the opportunity to sell for \$2.

For a time stock salesmen reaped rich commissions but finally rumors that the reports were misleading began to be spread and at a company banquet at Oklahoma City it is charged that the Greens attempted to sell out to the salesmen. At this point the government stepped in, arrested the promoters and began to unravel evidence which finally landed the Greens in prison on the charge of using the mails to defraud. Now the stockholders are attempting to save what is left of the assets of the companies.

Promises of profits of 100 to 500 per cent from stock promoters seldom become realities. The country is being flooded with wildcat stocks by unscrupulous investors. The resale plan of the Greens is only one of the many varieties of bait used. Any of these promoters are willing and anxious to take Liberty bonds or War Savings stamps and Treasury Savings certificates in exchange for their bits of paper. They are perfectly willing to give a promise of profits for the sure payment guaranteed by the federal government.

Investment in government saving securities and Liberty bonds are safe, sure and profitable. The investor not only is guaranteed against loss, but he is assured that money so invested will go toward solving the economic problems with which all are faced and in making the country greater and more prosperous instead of seeing his savings go to provide luxuries and an easy living for dishonest promoters.

Kansas Judging Team Second

The stock judging team of the Agricultural College of Kansas won second place in the stock judging contest at the International Swine Show at Des Moines. J. D. Montague was high man on the Kansas team.

This contest is open to teams of all colleges. This year eight teams competed. The Missouri team won first place, the Kansas Aggies second, Iowa third, and Nebraska fourth.

A model hog house, costing when complete approximately \$12,000, will be ready for occupancy at the Kansas Agricultural College the first of next month. In addition to floor space for



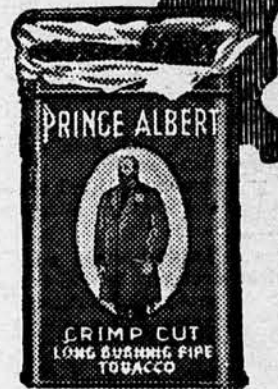
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Melt chocolate over hot water. When melted, dip raisins, figs, dates and nut meats in chocolate and spread on oiled paper to dry.

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.

Wear Colors That Suit You

CHOOSE the color that suits you, madam," says Paul Poirer. Unfortunately this advice is not always followed. If a manufacturer puts a new color upon the market this season—rhinoceros pink, perhaps—we hasten to procure some of the new color in order to adorn ourselves fashionably, regardless of the fact that our complexion may be pea-green. A wise woman, however, will study carefully the effect of the color against her complexion before choosing it for a gown. Bright blue will emphasize the sallow complexion of a person who is naturally sallow. The law of simultaneous contrast explains why—a color reflects its complement. The complement of blue is orange. Tinge a sallow complexion with orange and it becomes more sallow. This knowledge is of the utmost importance to the woman who wishes to wear becoming colors.

Simplicity in Dress

There is one kind of costume which is always pleasing and strikes a note of refinement in dress. This costume is one in which one color predominates. A woman in all white or in all black usually achieves an air of distinction which she fails to achieve in a costume of many hues. This is especially true of clothes for the street. The garb of mourning carries with it the stamp of quiet elegance. This is true also of the colors blue, brown, green, and violet, in their more subdued hues. A string of beads, a knot of ribbon on the blouse, or a feather or flower in the hat may furnish all that is needed of a contrasting color for accent. Many women lose their individuality in their trappings. This danger usually lies in unintelligent use of many colors. That costume is most pleasing which stands forth as a unit, a perfect whole.

A predominating color throughout the entire wardrobe not only unifies one's appearance, but also enables one to dress more economically. The expense of buying accessories to harmonize with costumes of various hues is a very large item in the cost of the wardrobe.

Appropriateness to Season

To appear in a bright yellow dress on a hot summer day is a crime. There should be a law to prevent the infliction of such torture on an already perspiring public. A bright red dress is equally bad. If the cool colors—blue, green, and violet—are not becoming, it is possible to obtain very subdued shades of the warm ones—red, orange, and yellow.

Colors for Stout Women

Color emphasizes line. To secure good lines is the fat woman's problem in dress. The general background for all life is neutral gray. To clothe one's self in pronounced color against such a background is to emphasize one's outline. Therefore the women who wish to conceal unattractive lines will resort to the gray or neutral hues. Bright colors and warm colors—red, orange, yellow—have the power of making objects appear larger than they really are. A word to the wise is sufficient.

Color and Texture

When choosing colors, the texture of a fabric should be considered. Brilliant, hard colors should be avoided in a hard, wiry fabric. Soft silks, crepes, and thin materials which lend themselves to graceful folds have a tendency to make colors appear softer. In these materials stronger colors are permitted.

Softening Effect on Face

To oppose an unrelieved color against the face is apt to be trying except in rare instances of perfect complexions. Some soft, transparent stuff in white,

cream, or gray, should be used to modify the transition. There are few, even among young girls, who can afford to omit this softening amalgam. It is an unfortunate mistake, frequently committed, to wear a dark dress without a collar to effect a shading between the dress and the skin.

Color for Types

Every woman is an individual type. Broadly speaking, however, women may be classed as blondes or brunettes. Red is for blondes and blue is for brunettes. The reverse of this rule was formerly thought true, but paintings by masters in art have proved the reverse. Brown, gold, yellow, and cream-white are also brunette colors. A woman whose hair is auburn or red will find her colors among the browns, violets, and lavenders. There are many women, however, who belong to the no-particular-type. For them, choice of becoming color is a matter of experiment. An artist tries many colors on his palette before transferring them to his canvas.

Whether one always succeeds in finding the most becoming colors for her type may be a question. But no one needs to make herself silly or ridiculous by her choice. To be stared at is not always a compliment. Good taste is never characterized by gaudy display. —"Color in Dress," Circular University of Illinois.

The Perfect Food

What sunburned child, when hours of play have made him tired and hungry, does not delight in it? What student whose brain is weary from long hours of constant study does not desire it? The overburdened housewife, tired from her daily tasks, can quickly regain her strength by eating it. The man who labors with his hands, who works from early morn till night in the heat of the summer's sun, or who endures the winter's cold, can find no better refreshment for his tired body when the day's work is done. After hours of mental strain in a down-town office where work and worry and the keenest competition are ever present, the man of business may renew his strength and vitality by a simple meal of this food. Through its use teachers, doctors, preachers—professional people of every sort—who bear the burdens of a busy, suffering world, may obtain relief from nervous strain, and all who are weary and overburdened with work or worry may find life and strength and pleasure.

No, this is not an advertisement for a new and expensive breakfast food. It is simply your conservative Uncle Sam's opinion of a good old-fashioned bowl of bread and milk.

Home-Made Soap

The first prize on home-made soap at the Kansas Free Fair this year was won by Mrs. Clyde Corbet of Shawnee County. This is Mrs. Corbet's method of making it, as given to the home demonstration agent:

The fats, consisting of bacon drippings, old lard, and tallow, were clarified by boiling with several pieces of raw potato, then skimmed and strained through a cloth. "To two and one-half pints of cold water add one pound of the best lye. Put in the lye carefully," advises Mrs. Corbet, "as it will eat the hands if it falls on them. The mixture becomes hot as the lye dissolves, and it should be allowed to stand and cool till the temperature is about 70 degrees. Now take six and one-half pounds of the clarified fat and warm until melted, but

do not boil. Slowly pour the grease, stirring meanwhile, and when about the consistency of thin honey pour into wet pans. Do not stir too long. When cold, cut the soap into cakes."

To Wash Dress Shields

If one wishes to get the full value from her dress shields, says Charlotte E. Carpenter of the Colorado Agricultural College, she should follow closely the directions for washing which usually accompany each set of shields.

The sheet rubber, the rubberized cloth and the pyroxylin shield should be washed in warm, not hot, water which contains a few drops of ammonia, one teaspoonful of household ammonia to a quart of water. Use no soap. Dry at natural room temperature. Do not place on radiators or any hot surface. When dry the shields may be pressed with a moderately hot iron.

The balata shields should be soaked in a cold soapsuds made from a mild soap such as Ivory. The naphtha and strong yellow soaps should not be used. Scrub the shields with a stiff brush. Rinse well in cold water. Shape while wet. Dry thoroughly. Do not iron.

The Flower Garden

Prepare the ground this fall for the shrubs and perennials to be set out next spring.

Do not forget to lift some of the geraniums, salvia, asters, or other plants in the yard or garden. They will bloom in the window this winter.

Have you planted your tulips in the garden for next spring?

Tulips, narcissus, daffodils, and hyacinths planted now in pots or boxes and put in a cool place will give good flowers next spring.

Gladiolus flowers should be cut when the first flowers are opening. They may be kept in the house a long time and cutting the flowers early gives the bulb a better chance to develop.

Dahlias, cannas, gladioli, etc., should be dug and stored after the foliage has been killed by frost. Different varieties may be kept separate by storing them in properly labeled paper sacks or pasteboard boxes as fast as dug. The bulbs should be cleaned as soon as dry enough.

Rice Cream

- 1 cup cold cooked rice
- 4 cups milk
- 3/4 cup sugar
- 3 egg yolks
- 1/4 teaspoonful salt
- 1 teaspoonful flavoring
- 3 egg whites
- 4 tablespoons powdered sugar

Soak rice in milk and heat. Beat egg yolks. Add sugar and salt. Pour hot milk over the mixture. Cook until thick, and add flavoring. Make a meringue of egg whites and powdered sugar. Cover the cream with meringue and brown in the oven.

Apple Catsup

- 1 quart apple sauce
- 1 teaspoon ginger
- 1 teaspoon cinnamon
- 1 teaspoon cloves
- 1 teaspoon pepper
- 1 teaspoon mustard
- 1 teaspoon onion extract
- 2 teaspoons salt
- 1 pint vinegar

Simmer slowly until thick, bottle and seal. A similar catsup can be made from plums or grapes, and spiced to taste. Sugar may be added if a sweet sauce is liked.—U. S. Food Administration.

A HOUSEWIFE'S THOUGHTS

When you hush your babe to sleep
What are you thinking?
When you make the beds or sweep
What are you thinking?
When the dishes you are washing
Or in laundry tubs you're splashing
Or with clothes to mend you're sitting
Or a sweater you are knitting—
What are you thinking?
Nothing special? Don't admit it:
If you're wasting thought stuff, quit it.
We save food and clothes today,
But oh! the thoughts we throw away!
Conserve your thinking.
—Emma Riggs Barnard in American Motherhood.

To reduce the high cost of living the country must work and save.—W. P. G. HARDING, of Federal Reserve Board.

FASHION DEPARTMENT

Price of All Patterns, 10 Cents



No. 2990—Child's Dress: Cut in five sizes—two, four, six, eight and ten years. Size six requires two and one-half yards of 36-inch material. No. 2992—A Popular Style: Cut in three sizes—sixteen, eighteen and twenty years. Size eighteen requires five and one-eighth yards of 36-inch material. Width at lower edge is one and seven-eighths yards, with plaits drawn out. No. 2976—A Practical Suit for the Small Boy: Cut in four sizes—three, four, five and six years. Size four requires two and one-fourth yards of 44-inch material. No. 2980—Splendid Dress in One-Piece Style: Cut in seven sizes—34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires four and a half yards of 40-inch material. The skirt measures about one and one-half yards at the lower edge.



No. 2991—Ladies' House Dress: Cut in seven sizes—34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires five and three-eighths yards of 36-inch material. Width at lower edge is about two and one-fourth yards. No. 2979—New Coat for the Little Miss: Cut in four sizes—six, eight, ten and twelve years. Size ten requires three and one-half yards of 44-inch material. No. 2994—Ladies' Combination Garment: Cut in four sizes—small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium requires three and three-eighths yards of 36-inch material, with three-eighths yard for the ruffle. No. 2666—Girls' Dress: Cut in four sizes—eight, ten, twelve and fourteen years. Size twelve will require three and one-half yards of 44-inch material.

Pattern Notes

In No. 2979 we have a new coat for the little miss. A good feature of this model is the sleeve portion which forms part of the front and back. Cheviot, serge, velvet, velveteen, plush, corduroy, velvet, tricolette, and Jersey cloth are all good materials. The coat fronts may be rolled high or worn low.

A very good model for the growing

girl is No. 2666 with its straight lines and comfortable fullness. This lends itself well to all kinds of material. One could combine plaid suiting, serge, or checked goods or mixtures with contrasting plain fabric. For linen, serge, corduroy, or velveteen this is very appropriate.

No. 2994 is a pattern you will want—a dainty combination garment which is very easily made. It comprises a well-fitting corset cover and a dart-fitted one-piece short underskirt or petticoat. Flouncing may be used for both garments, or batiste, nainsook, lawn, crepe, washable satin, silk, or crepe de chine in either white or flesh. The ruffle may be omitted.

A good style in a one-piece dress is No. 2980. As here shown, serge and satin might also be used or black satin and velvet with a bit of color used as piping. Taupe gabardine with old blue is effective, or serge with braiding. No. 2992 is a popular style because of its comfort, convenience, and utility. The simple and yet stylish lines lend themselves to all dress materials. Serge in blue or brown, checked or mixed suiting, taffeta, gabardine, and velvet, all are desirable and appropriate.

If No. 2990 is made from gingham or checked or plaid suiting, a pleasing effect is gained by cutting waist and pockets bias. Gingham, percale, or lawn might also be used.

The little boy's blouse may be of cambric, Indian head, drill, linen, percale, or madras, and the trousers of khaki, serge, flannel, corduroy, or cheviot, or the entire suit may be of one material. The trousers are finished with an inside waistband which is buttoned to the band of the blouse. Additional closing is effected by buttons at the points in the shaped part of the trousers, as illustrated.

If you do not have the fall and winter style book, inclose an extra dime with your pattern order and ask for it. Address Fashion Department, Kansas Farmer, Topeka, Kansas.

Pattern Catalog

If you don't see just what you want in the patterns illustrated, or if you don't know just what you want, send for our fall and winter pattern catalog which contains 550 designs for ladies', misses' and children's wearing apparel. Ten cents in stamps or silver will bring it to you. Address Fashion Department, Kansas Farmer, Topeka, Kansas.

Club Awards at Fairs

The awards in the boys' and girls' sewing, bread-making, and bee clubs at the Kansas Free Fair at Topeka and at the Kansas State Fair at Hutchinson follow:

At Topeka—
GARMENT MAKING CLUB AWARDS—Special set, Class A—1, Lucile McKenzie, Wayne; 2, Ora Teagarden, Wayne; 3, Isabel Shepard, Wayne. Class B—1, Emily Carter, Utopia; 2, Ruth Ruff, Chase; 3, Erma Teagarden, Wayne. Class C—1, Lydia Ruff, Chase; 2, Clara Seck, Bucyrus; 3, Dorothy Menquitt, Hamlin.
Darning Hose—Special—Class A, Lucile McKenzie, Wayne; Class B, Ruth Ruff, Chase; Class C, Lydia Ruff, Chase.
BREAD CLUB AWARDS—Wheat Biscuits—1, Lucile McKenzie, Wayne.
Dixie Biscuits—1, Esther Williams, Preston; 2, Tilda Wright, Greeley; 3, Lena Herdman, Bonner Springs.
Twin Mountain Muffins—1, Ruth Ruff, Chase; 2, Josephine Morris, Bonner Springs; 3, Helen Swaggerty, Newman.
Graham Muffins—1, Anna Rues, Greeley; 2, F. Coyne, Sterling; 3, Geneva Strohman, Jewell.
Yeast Bread, White—1, Gertrude Granger, Lansing; 2, Nora Warden, Bonner Springs; 3, Etheldred Schaefer, Jewell.
Yeast Bread, Graham—1, Minnie Gossman, Sterling; 2, Mildred Musser, Jewell; 3, Glendine Henry, Sterling.
BEE CLUB AWARDS—White Honey for Extracting—1, Joe Stout, Emporia.
Extracted Honey in Glass Jars—1, Joe Stout, Emporia; 2, Sam Wingert, Emporia; 3, Jennie Nofziger, Emporia.
Production Record of One Colony—1, Sam Wingert, Emporia; 2, Joe Stout, Emporia; 3, Clarence Morlock, Americus.
At Hutchinson—
GARMENT-MAKING CLUB AWARDS—Special Set, Class A—1, Lucile McKenzie, Wayne; 2, Isabel Shepard, Wayne; 3, Alberta Shue, Jewell. Class B—1, Ruth Ruff, Chase; 2, Rotha Shepard, Wayne; 3, Louise Bowen, Fairview. Class C—1, Lydia Ruff,

Classified Advertising

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

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

AGENTS WANTED

AGENTS MAKING \$200 WEEKLY: EVERYONE wants it. Formulas for 200 beverages to be made at home. Book form. Send \$1 for copy and territory proposition. Act quickly. Buyers' Export Agency, 487 Broadway, New York.

MISCELLANEOUS.

FOR SALE—BY THE MOHAWK RABBITRY & KENNELS, Indianapolis, Ind., high-class rabbits of all breeds; guinea pigs, ferrets, pigeons, hunting dogs and blooded young hogs. Write for prices and terms. Raise stock for us. We furnish the breeding stock and buy back all you raise. Stamp for circular.

FARMS WANTED.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn., 1E.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, 15th St., Chippewa Falls, Wis.

MISCELLANEOUS.

WE WANT RELIABLE PEOPLE TO raise fur-bearing rabbits for us in their back yards, spare time. We furnish stock and pay \$3.50 to \$7.50 each for all you raise. Sunset Fur Co., 507 Lankershim Bldg., Los Angeles, Cal.

NOTICE TO SILO OWNERS—TO OWNERS of pit silos, I have a holsting machine with which one man can take the ensilage from silo alone. Machine is sold under an absolute guarantee. For further information write Henry Santrock, Kensington, Kansas.

REAL ESTATE.

160 ACRES IMPROVED—110 ACRES UNDER cultivation, balance pasture and timber. Six miles from Hebron, Nebraska, three miles from Stoddard. For price write W. M. Swartzwelder, Cadams, Neb.

FARMS FOR SALE—FERTILE, PROPERLY cultivated. Good buildings, low priced. Near Chicago and Indiana's big northwestern industrial region. Send postal for description. E. H. Scott, owner, La Porte, Indiana.

CATTLE.

TWO REGISTERED GUERNSEY HEIFERS, recently fresh, and a bull calf, for sale. J. W. Marley, Oswego, Kansas.

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.

Chase; 2, Clara Seck, Bucyrus; 3, Theresa Schecker, Bucyrus.

Hose—Class A—1, Lucile McKenzie, Wayne; 2, Leona Boston, Washington; 3, Leona Boone, Utopia. Class B—1, Ruth Ruff, Chase; 2, Louise Bowen, Fairview; 3, Ethel England, Wayne. Class C—1, Clara Seck, Bucyrus; 2, Lydia Ruff, Chase; 3, Irene Harris, Minneapolis.

Night Gown—Class A—1, Clara Mowrey, Sterling; 2, Mary Chilcott, Jewell City; 3, Lucile McKenzie, Wayne. Class B—1, Ruth Ruff, Chase; 2, Aetna Manving, Newton; 3, Opal George, Fairview.

Underskirt—Class A—1, Lucile McKenzie, Wayne; 2, Ora Teagarden, Wayne; 3, Isabel Shepard, Wayne. Class B—1, Agnes Kelley, Bucyrus; 2, Rotha Shepard, Wayne; 3, Irene Seck, Bucyrus.

Underwaist—1, Lucile McKenzie, Wayne; 2, Mildred Boyd, Irving; 3, Mary Chilcott, Jewell City.

School Dress—Class A—1, Clara Mowrey, Sterling; 2, Isabel Shepard, Wayne; 3, Lucile McKenzie, Wayne.

Work Dress—Class B—1, Rotha Shepard, Wayne; 2, Ruth Ruff, Chase; 3, Emily Carter, Wayne.

Holders—1, Lydia Ruff, Chase; 2, Iva Harris, Minneapolis; 3, Cecelia Kelley, Bucyrus.

Bags—1, Helen Rinehart, Ford; 2, Hannah Freeman, Ford; 3, Irene Harris, Minneapolis.

Little Girl's Apron—1, Lydia Ruff, Chase; 2, Theresa Schecker, Bucyrus; 3, Edna Engle, Hamlin.

No bee club entries were made at Hutchinson.

Sandwiches may be kept fresh by folding in a damp napkin over which has been placed a dry napkin. Wrapping in paraffin paper is also an effective method.

"Some women who wouldn't tell their age for money will make themselves look ten years older than they are by careless dressing and sloppy walking," observes Mrs. Homer Hoch in the Marion Record. Something in that!

HONEY.

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

PURE CLOVER EXTRACTED, COMB and chunk. Write us. Pangburn Apiary, Center Junction, Iowa.

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.

SHEEP.

GOOD BIG REGISTERED SHROPSHIRE March rams, \$25 and \$30. R. E. Week, Phillipsburg, Kan.

DOGS.

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

COLLIE PUPS FROM GENUINE HEEL drivers of best breeding. E. L. Dolan, Route 2, Platte City, Mo.

FOR SALE—HIGH CLASS COON, SKUNK and opossum dogs. If you want the kind that delivers the goods, I have it. Stamp for reply. A. F. Sampey, 862 So. Campbell St., Springfield, Mo.

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

SPORTSMEN—TRAINED BEAGLES, rabbit, fox, coon, skunk, squirrel and opossum dogs, bird dogs, pet and farm dogs, swine, rabbits, pigeons, pheasants, goats—100 varieties blooded stock. Circulars—10c. Violet Hill Kennels, Pork, Pa.

POULTRY.

R. C. BUFF WYANDOTTE YOUNG stock for sale. G. G. Wright, Langdon, Kan.

BLACK LANGSHAN COCKERELS, \$3.00 each. Letha Glidewell, Hallowell, Kansas.

BIG BLACK LANGSHANS—SATISFACTION guaranteed. Osterfoss, Hedrick, Iowa.

BARRED ROCK, BUFF COCHIN, LIGHT Brahma sale. A. Bloom, Stamford, Neb.

ROSE COMB WHITE WYANDOTTE Cockerels and hens. A. H. Fry, Paxico, Kan.

LARGE DARK RED ROSE COMB REDS, guaranteed. Highland Farm, Hedrick, Iowa.

CHOICE PURE-BRED SINGLE COMB Buff Leghorn cockerels, \$2 each. Alf Johnson, Leonardville, Kansas.

WHITE ROCKS, SIZE AND QUALITY. Satisfaction guaranteed. Prices reasonable. G. M. Kretz, Deer Creek, Okla.

A FEW CHOICE W. W. COCKERELS, \$2.50 each, while they last. Money's worth or money back. W. D. Ochsenbain, Route 3, Columbus, Kansas.

WHITE PLYMOUTH ROCKS, YOUNG and old, from prize winners, won in egg-laying contest. Also 50 White Leghorn cockerels. W. K. Trumbo, Roseland, Kansas.

POULTRY WANTED.

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

TURKEYS, DUCKS, GEESE, GUINEAS, chickens, eggs. We buy 'em all. Write for prices and coops. The Copes, Topeka, established 1883.

FARM LANDS—TEXAS.

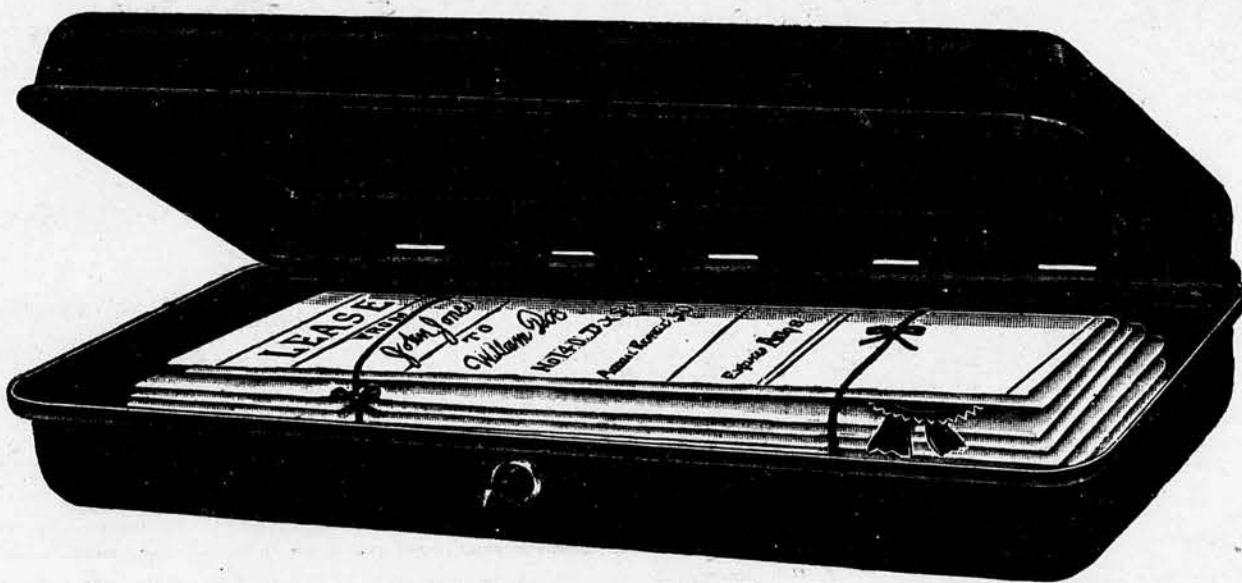
BIG CROPS IN NORTHWEST TEXAS ON the new line of the Santa Fe. The Federal Railroad Administration has authorized the completion of the new Shattuck branch of the Santa Fe Railroad to take care of this year's big crops—wheat, oats and sorghums. This will open for immediate settlement and development a 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. Oliver, Santa Fe Land Improvement Company, 405 Santa Fe Bldg., Topeka, Kansas.

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HELPFUL POULTRY HINTS

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

Getting Flocks in Winter Quarters

AS FALL and winter eggs will be secured from the pullet flock, these fowls should be put into winter quarters in the poultry house as early as possible so that they will get the habit of laying in the nests. The hens will begin egg production at six and a half months and Rocks and Reds in six and a half months. It is profitable to allow them to run out at will each day, to be caught at night and taken to the poultry house. Keep them in, but keep them scratching by supplying grain and an abundance of green feed, they may lack no part of the ration which they are accustomed. The old hens or breeders should have separate room and be allowed the freedom of the farm. They must be fed a different ration and have different management from the pullet flock. A good ration for pullets is two parts of cracked corn and one each of wheat and as scratch feed, fed at the rate of one pint for ten chickens, morning and night, in deep litter. The pullets should have access at all times to an egg mash composed of equal parts by weight of meal, ground oats, bran, shorts and seraps. If skim milk or buttermilk is available, the amount of beef scraps should be reduced one-half. When the pullets have become accustomed to their new quarters they may be allowed to range about the farm, but should be carefully watched at night and allowed to return to the poultry house.—E. CHAPMAN.

Overfeeding on Corn

Probably the most important reason why more eggs are not produced is the overfeeding of corn. The fowls are frequently kept in unsanitary, mite-infested houses, or roost in the trees, or the flock contains so many different kinds and ages of chickens it is impossible to feed and manage them intelligently. These unfavorable conditions should be remedied, says Prof. F. C. Hare of the Poultry Division, Clemson College, S. C., who makes the following suggestions: There is one constituent of food that is an important bearing on egg production and the development of chicks. It is called protein, and from it is made the flesh, feathers, blood and the whites of the eggs. If less than 15 per cent of protein is present in the ration, the hens lay few eggs, while the biddies are stunted, become stupid and die. Corn or hominy contains only a little over 10 per cent of protein, so that unless the poultry can supplement their supply of this constituent from bugs, worms, or meat found on the range, we could provide the hens and chicks with foods that contain more protein. This is exactly where many persons fail with poultry; they feed their fowls in the winter when there are no bugs, the same as in the spring, when there are insects everywhere. Where buttermilk or thick sour milk is available, the simplest and best way to provide the needed protein and balance the ration is to give the layers and growing chicks all the buttermilk they can drink. Feed whole or cracked corn once daily in warm weather and twice daily in cold weather. If the hens range

around the mule lots and pick up waste food, omit the feeding of grain—simply putting out pans of buttermilk. A balanced ration for laying hens can be secured by feeding twice daily equal parts by weight of corn, peas, and oats. This food will produce eggs in winter from well matured pullets. Another simple method for obtaining eggs in winter is to feed wheat bran and middlings mixed with water each morning, and to feed corn at night. It would be preferable to mix the shorts with buttermilk, but shorts mixed with water will give good results.

Feed Pullets Well Now

If you want to get eggs this winter, feed the pullets well now. It is the well-fed fully-grown pullet that will give the poultryman lots of eggs this winter. The dairyman knows he must have his heifers in good flesh before they freshen if he is to get heavy milk production. So with the poultryman, he must have his pullets in good flesh before they begin laying if he is to get heavy egg production.

FARM AND HERD.

John D. Henry, of Leocompton, Kansas, has announced October 30 for his annual Poland China pig sale. On this date he will offer fifteen spring boars and twenty-two spring gilts sired by Big Orange, Our Big Knox and Big Sensation; also three tried sows and two fall yearling gilts will be included. Big Sensation was shown last year at the Kansas Free Fair at Topeka and was the largest hog of any breed ever shown at any fair in Kansas. This mammoth hog weighed 1,100 pounds. He has proven a great sire of large smooth Poland Chinas of the easy feeding kind.

F. C. Crocker, of Filley, Neb., owner of Maple Lane herd of pure-bred Durocs, reports his herd doing fine and a good demand for high class Duroc breeding stock. Mr. Crocker is one of the pioneer breeders of pure-bred Durocs and by years of progressive breeding has built up one of the famous herds of that popular breed of hogs. His herd of brood sows is one of the best now assembled and is made up of representatives of the best blood lines of the breed. The boars in use in his herd are among the very best sires of the breed now in service. Prize winning blood lines have prevailed in this herd from its foundation to the present time and many of the best Duroc herds in the corn belt were started with foundation stock from Maple Lane herd.

Bruce Hunter, of Lyons, Rice County, Kansas, has announced November 6 for his annual sale of Poland Chinas. On this date he will offer fifty head, consisting of fifteen spring boars, twenty-two spring gilts, five tried brood sows bred for early spring litters, and five valuable brood sows with fall litters at side. The pigs are six to eight weeks old and are of splendid blood lines. Mr. Hunter has been breeding Poland China hogs for a number of years and he owns one of the good herds of Kansas. A feature of his herd is the quality. One can never find more than ten to fifteen young boars on the farm at any time. All except high class individuals are sent to the fattening pen. The offering is a well picked lot.

Herman Gronniger & Sons, of Bendena, Kansas, held their annual fall pig sale at the farm on Thursday, October 9, and sold twenty spring gilts at an average of \$60 and eighteen boars at an average of \$56.15. The offering was one of the best ever sold from the Gronniger farm and as good as will go through any sale ring this fall season. No sensational prices figured in the auction, yet the averages were very fair for March and April spring pigs. Herman Gronniger & Sons have been breeding Poland China hogs for forty years and own one of the profitable producing herds of that breed. They have announced February 9 for a sale of bred sows. On this date they will offer a high class lot of bred sows and bred gilts bred for March litters to King Bob, Model Timm and Big Liberty.

Geo. Morton of Oxford, Kansas, held his first annual Poland China pig sale at his farm near Oxford, Kansas, Saturday, October 4th. Owing to a heavy rain the night before and a steady down pour all day Saturday, the attendance was not large. Many farmers and breeders that had planned the coming in cars were unable to attend. The offering was a well grown lot of spring boars and gilts and would have sold for more money had the local support been good. Several breeders from Missouri, Kansas and Oklahoma were present and bought. Fifteen gilts sold for an average of \$128.65, 20 spring boars March and April farrow sold for an average of \$70.20. The 35 head sold made an average of \$95.25, considerable less than they would have brought had weather conditions been favorable. Mr. Morton has announced January 23, for a bred sow sale and will offer a splendid lot of sows bred to Morton's Giant and other good boars.

SECOND ANNUAL SALE October 29, 1919

SYLVAN PARK

ANXIETY **80 LOTS** **HEREFORDS** **80 LOTS** **FAIRFAX**

1 Herd bull, excelent breeder
5 Young bulls—Herd header prospects
46 Cows, 30 with calves at foot, rebred to SYLVAN PARK herd bulls
12 Bred heifers. A bunch of tops
12 Open heifers. A great foundation bunch
6 Granddaughters of PERFECTION FAIRFAX

HERD BULLS

Three Sons of
THREE GRAND CHAMPIONS
One Son of
DOMINO

Alex Fairfax 414455, Disturber Lad 538882, Vernet Prince 31st 494961, Quinto 427220.

For Catalogues address

Dr. B. E. Miller, Council Grove, Kansas
F. H. Manning, Parkerville, Kansas

Circuit of Sales

October 27, Pat Brown, Fall River; October 28, Paul Williams, Marion; October 29, Miller & Manning, Sylyan Park; October 30, Morning, Mrs. Faye Steward, Council Grove; October 30, Afternoon, Kansas Hereford Breeders' Association, Council Grove; October 31, Carl Miller, Alma; November 1, V. O. Johnson, Aulne.

COMBINATION HOG SALE

AT K. S. A. C.

OCTOBER 25, 1919

60 HEAD

60 HEAD

CONSIGNEE BY MANHATTAN PIG CLUB AND
WREATH FARM

Twenty Duroc Jersey Boars and Twenty-Six Gilts

Sired by Critic Chief, the mammoth sire shown by the Kansas State Agricultural College at the Topeka Free Fair; Ideal Model Junior, and Sensation Joe Orion.

Fourteen Spotted Poland China Boars and Gilts

Sired by Gates' Lad and Faulkner's Model. Our hogs excel in large litters, rapid growth and early maturity. For catalog address

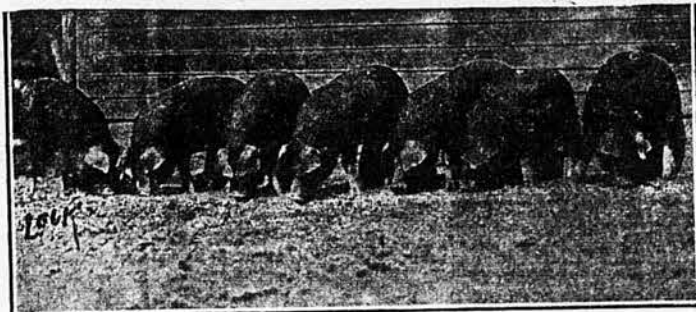
L. G. WREATH, SALE MANAGER, MANHATTAN, KAN.

Auctioneer, L. R. Brady.

Send mail bids to E. F. Ferrin, Assistant Professor in Animal Husbandry, Kansas State Agricultural College.

POLAND CHINA SALE

AT FARM NEAR LECOMPTON, KANSAS



A Sample of Gilts in Sale

FORTY-TWO HEAD—Three tried sows, two fall gilts, fifteen spring boars, twenty-two spring gilts, sired by Gig Orange, Our Big Knox and Big Sensation. Send for catalog and come to sale. All immuned.

JOHN D. HENRY - - - LECOMPTON, KANSAS

**Oct.
30th
1919**

EGG-O-LATUM

KEEPS EGGS
ONE YEAR

It costs only one cent per dozen eggs to use Egg-O-Latum. There is no other expense. Eggs may be kept in carton or box in cellar, they may be boiled, poached or used in any way, just like fresh eggs. Simply add one egg to the jar is sufficient for 50 dozen eggs. At poultry supply stores or

H. LEE CO., Dept. 461, Omaha, Neb.

HOLSTEIN CATTLE.**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. Also two high class registered yearling Ayrshire bulls at a bargain. 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.

PRACTICALLY PURE BRED HOLSTEIN CALVES

Six to eight weeks old, nicely marked and excellent individuals, from registered sires and choice heavy milking cows, \$30 each. We pay express.

CLOVER VALLEY HOLSTEIN FARM WHITEWATER, - - - - WISCONSIN.

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

Holstein Bull

FOR SALE—Coming yearling bull. Tuberculin tested. From Federal accredited herd. Dam on year test. Production to date, 273 days, 15,215 lbs. milk, 510 lbs. butter fat. Sire Butterboy 18th breeding. Sires dam 22½ lb. butter record as 2-year-old.

JAY B. BENNETT,

HOLTON, - - - - KANSAS.

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

DUROC JERSEYS.**DON'T PAY FOR YOUR DUROC BOAR**

Until you see him. Crocker ships you a big Duroc boar this way. A written guarantee that he is immune and a breeder goes with the pedigree. They are priced right.

F. C. Crocker

BOX K FILLEY, NEBRASKA

For Sale—Fifteen Spring Boars

And one Fall Yearling of the best of breeding, priced to sell. Satisfaction guaranteed.

Louis Mc Collam, Kincaid, Kan.

Woodell's Durocs

A choice lot of extra well bred gilts bred for late farrow. Few fall boars.

G. B. WOODDELL, WINFIELD, KANSAS.

PETFORD'S DUROCS

FOR SALE—Fifty spring pigs by the grand champion Model Ally, Illustration Orion 3d and General Pathfinder, out of my best herd sows. These boars are good and priced to sell. Send for catalog. Bred cow sale February 14.

JOHN W. PETFORD, Saffordville, Kansas

DUROC BOARS

FOR SALE—Fifteen choice spring boars and one fall yearling that are too good to send to market. Priced at \$60 to \$60 for spring boars, \$100 for fall yearling. First check or draft gets choice. Guaranteed right and of choice breeding.

S. B. REPLOGLE, Cottonwood Falls, Kansas

DUROC BOARS

May farrow. Sires, Golden Orion 239687 and Indicator Chief 290295. Nice high-back boars, \$40 each. First check gets choice.

J. P. COPENING - IOLA, KANSAS

HAMPSHIRE HOGS

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

PERCHERON SALE

I will sell twenty registered Percheron Horses at Public Sale, WEDNESDAY, OCT. 15, 1919

Eleven Mares : Four Stallions : Five Colts

The mares are young and good individuals. All of suitable age are bred to Casino, Admiral Casino or Imp. Karnatio. The colts are sired by one of the above stallions. Admiral Casino 115951, a five-year-old black son of Casino 27830 (45462) will be sold. Three coming two-year-old stallions sired by Admiral Casino will be sold. Inquiries answered promptly. Send for catalog.

PERCY E. LILL - MOUNT HOPE, KANSAS

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 POLLED CATTLE

For Sale—One 2-year-old herd bull, two yearling heifers and a few cows. Come and see my herd.

J. H. FERGUSON - GYPSUM, KANSAS

RED POLLS, BOTH SEXES, BEST OF BREEDING.

Charles Morrison & Son, Phillipsburg, Kan.

POLAND CHINAS**Poland China Boars**

FOR SALE—A few extra good spring boars, and will offer a few spring gilts. Will sell open or breed them for spring litter. Write or come and see us.

Hill & King

Phone Rural 8104 F5 Route 28, Topeka, Kan.

Barnsdale Polands

For Sale—Poland China gilts bred to Wonder Price and Jumbo Uhlman. Also a few choice spring boars, priced reasonable. Write or come and see my herd.

R. L. Barnes, Grenola, Kansas

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

DEMING RANCH**POLANDS**

The blood that breeds on hogs that make good. Strong in the blood of Big Bob Jumbo. For sale, a lot of early boars. Come and see us.

Deming Ranch, Oswego, Kan.

H. O. Sheldon, Herd Manager

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

Sired by Buster Price out of King Joe's Lady 4th. Herd prospects. Come and see my herd.

H. O. MOTT, - WHITE CITY, KAN.

Poland China Boars and Gilts

10 spring boars, 15 spring gilts, priced \$35 to \$50. First check gets choice. Satisfaction guaranteed or money back.

Willis R. Coleman, Lawrence, Kansas.

Route 5.

BIG-TYPE SPRING BOARS AND GILTS

Priced reasonable. Registered. Immuned. Write Marmion McWilson, Rice, Kansas.

POLAND CHINA BOARS

For Sale—25 Spring Boars by Giant Luner by Disher's 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.

PIONEER HERD POLANDS

Black Buster and Columbus Wonder at Head

Two great sons of Giant Buster and Big Bob Wonder. For sale, a few choice gilts bred for September litters. Annual bred sow sale February 12, 1920.

F. Olivier & Sons

DANVILLE - KANSAS

HORSES AND MULES.**PERCHERON HORSES**

For Sale—Three 3-year-old mares, two 2-year-olds, three aged mares with spring colts. Two yearling stallions priced to sell.

L. E. FIFE, NEWTON, KANSAS

Percherons--Belgians--Shires

My stallions have been again awarded premier honors at the State Fairs. Show horses and real herd-heads for sale. **FRED CHANDLER, Rte. 7, Chariton, Iowa.** Above Kansas City.

Kansas Shorthorn Breeders' Association

PARK E. SALTER, Pres.
Humboldt, Kans.

G. A. LAUDE, Sec'y.
Wichita, Kans.

SHORTHORN CATTLE

For Sale—A few young bulls and a few choice spring boars and gilts. We hold February bred sow sale and annual Shorthorn sale in June, 1920. Write us your wants.

C. S. NEVIUS & SON

CHILES, KANSAS

PEARL SHORTHORNS

Bulls, Scotch and Scotch topped, six to 13 months, for sale. Reds and roans. Can ship over Rook Island, Santa Fe, Missouri Pacific and Union Pacific.

C. W. TAYLOR, ABILENE, KANS.
DICKINSON COUNTY.

SHORTHORN CATTLE

Herd Bull, Sultan Seal.

175 in herd, Scotch and Scotch-topped. **For Sale**—Ten choice bulls, yearlings to 18 months. A few choice heifers and bred cows, priced reasonable. Come and see our herd.

Barrett & Land

Overbrook - Osage County - Kansas

SHORTHORN CATTLE.

Herd Bull, Nell's Goods by Silk Goods by Choice Goods. **For Sale**—A few young bulls, reds and roans. Come and see my herd.

FRANK GRAGG - DENISON, KANSAS

Snowdon Herd Shorthorns

For Sale—One herd bull and eight young bulls. Reds and roans. Priced reasonable. Write or come.

D. N. PRICE - BAILEYVILLE, KANSAS

SHORTHORN CATTLE

For Sale—Ten bulls, serviceable age. Twenty females from heifers and mature cows with calves at foot. Priced reasonable. Come and see me.

J. R. ELY - MARION, KANSAS

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, Ka.**

MARKS LODGE

Shorthorn Cattle. **Reds Exclusively.** Fifty cows and calves—Lancaster, Diamond and Scotchman dams. Clipper Dale 652041 and Butterfly Lad 448517, herd bulls. A few Diamond bull calves and tried cows for sale at this time. Milk and beef prospects. **M. F. MARKS, Valley Falls, Kansas.**

SHORTHORN BULLS

For Sale—Six Pure Scotch Bulls. Four are sired by Prince Valentine 4th, one Queen Beauty, two Butterflies, one Cumberland, one tracing to Lady Susan. The dams of these bulls are all on my farm, also three Scotch-topped bulls 10 to 15 months old. Come and see our herd.

A. L. & D. HARRIS, OSAGE CITY, KANSAS

WANT SHORTHORNS THAT COMBINE BEEF AND MILK

We receive many inquiries for Shorthorns that combine beef and milk. We urge that all who are handling Shorthorns join the Milk Shorthorn Cattle Club of America, J. L. Torrey, Secretary, 13 Dexter Park Avenue, Chicago. Grass-fat Shorthorn steers have topped the Chicago market. In the Record of Merit there are listed 50 Shorthorn cows of all ages whose records average over 8,000 pounds of milk annually. Send for literature.

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

SHORTHORN CATTLE

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

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

HICKORY POINT FARM SHORTHORNS

Herd bull, Oxford Prince No. 756979. **For Sale**—A few young bulls. Come and see me.

JOHN W. SHERWOOD, Dunavant, Kansas
Jefferson County

SCOTCH SHORTHORN BULLS

FOR SALE.

Lavender King and Red Stamp

IN SERVICE.

HARRY T. FORBES, R. 8, Topeka, Kansas

SHORTHORN CATTLE

Herd headed by Marquis Cumberland, a grandson of Cumberland Last, a first prize bull at Iowa State Fair. **For sale**—a few young bulls and females. Come and see my herd.

Willis R. Coleman, R. F. D. 5, Lawrence, Ka.

SPOTTED POLAND CHINAS

SPOTTED POLANDS.

Last call for early boars. Order gilts early.

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

AUCTIONEERS.

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

JOHN D. SNYDER, HUTCHINSON, KAN.

BREEDERS' DIRECTORY

ANGUS CATTLE.

Geo. Dietrich, Carbondale, Kansas.

RED POLLED CATTLE

Mahlon Greenmiller, Pomona, Kansas.

Hereford Cattle Sale

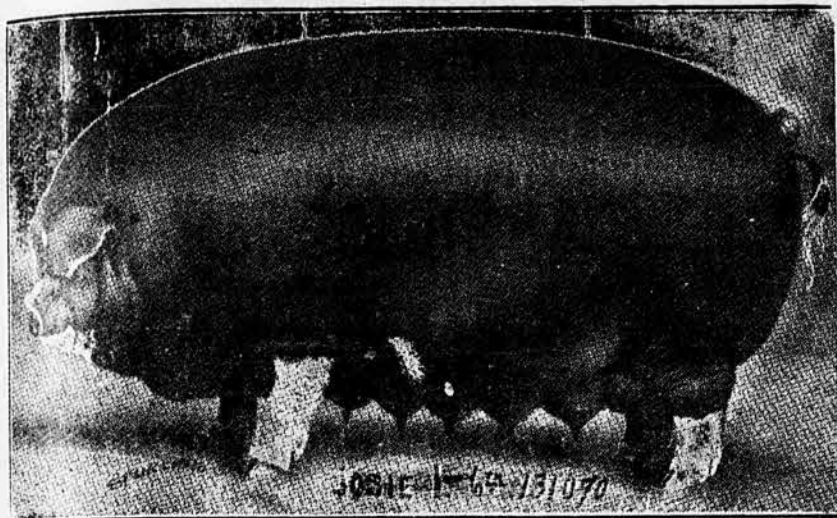
At Farm Near Marion, Kan., Oct. 28th

80 head Hereford cattle consisting of 40 mature cows, several have spring calves at side and bred again to Wiley Fairfax and Buddy L. 25 yearling heifers and 8 yearling bulls, real herd bull prospects. I will also offer one herd bull, Buddy L. Please send for catalog and come to my sale. I am selling some of my best cattle.

Paul E. Williams, Marion, Ks.

Auctioneers: Col. Fred Reppert, Col. J. J. McLinden, Col. Carson & Lowe.

POLAND CHINA SALE



Thursday, Nov. 6th, 1919

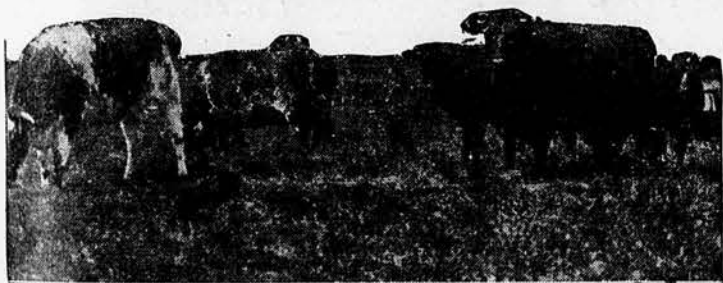
AT FARM NEAR LYONS

50 Head Poland Chinas including 15 large spring boars sired by King of Bob's Longfellow Timm and Sterling Giant. Also 22 spring gilts by the same boars. Two fall gilts by Big Bob Jumbo. 5 brood sows bred to Longfellow Timm and Disturber 'em. 5 Valuable brood sows with fall litters at side, good litters, about six to eight weeks old, just right for farmers to start new herds. Please send for catalog and come to my sale. There will be bargains for all. I guarantee a good offering.

Auctioneer, R. E. Miller.

BRUCE HUNTER, - Lyons, Kansas

Shorthorn Cattle Sale



November 5, 1919

AT FARM NEAR PECK, KANSAS

FIFTY HEAD USEFUL CATTLE

35 cows, several have calves at foot and rebred. 5 heifers coming two years old by Cumberland Diamond. 10 young bulls by Cumberland Diamond.

I am selling a useful lot of Cattle on which farmers or breeders can make a good profit with a little care. Catalogs are ready to mail out, please send for one and come to sale. Farm is 18 miles from Wichita and two miles from Peck, on Santa Fe and Rock Island Railways.

ED STUNKEL, - - PECK, KANSAS

Auctioneers: Col. John D. Snyder, Col. Boyd Newcome.

HORN DORSET SHEEP

HILLSDALE DORSETS

Registered and bred Dorset Ewes, one and two years old, for sale.

H. C. La Tourette, Owner, R. 2, Oberlin, Ks.

SHROPSHIRE SHEEP

FOR SALE

Registered Shropshire Rams, Yearlings and Lambs.

Also my Shorthorn herd bull, King Archer.

W. T. Hammond, Portis, Kan.

Black-faced big, hardy bucks, lively rustlers, and right ready for business. Registered Shropshires. Crated or in car-lots. Everyday prices.

HOWARD CHANDLER, Chariton, Iowa.

SHROPSHIRE RAMS

FOR SALE—A few Shropshire yearling rams at \$25 and \$40. First check gets choice.

DR. F. B. CORNELL, NICKERSON, KAN.

SHROPSHIRE SHEEP

Twenty pure bred unregistered Shropshires for sale.

R. HAGUE

PEABODY, KANSAS.

FARM AND HERD.

Jones Bros., of Hiawatha, Kansas, held their Poland hog sale as advertised on October 7 and sold fifteen spring boars at an average of \$50.40 and twenty spring gilts at an average of \$76.50. The offering was presented in splendid breeding condition. The Jones Brothers own one of the good herds of Poland Chinas and have announced January 31 for a bred sow sale. They will

offer a splendid lot of sows bred to Jones' Colonel Jack and Jones' Jones.

The eighth annual fall sale of Dr. J. H. Lomax, of Leona, Kansas, was held at the farm on Wednesday, October 8, and with a steady all-day rain forty-one head were sold. Twenty-one spring gilts averaged \$55.50 and twenty boars averaged \$53.92. The offering was presented in splendid breeding condition and was the best lot of Poland Chinas ever sold from the Lomax farm. Dr. Lomax is widely known among Jersey breeders for the high class and well bred herd of Jersey cattle he owns. The well bred and well grown Poland China hogs produced on the Lomax farm are attracting attention among breeders in the corn belt.

Herman Groninger & Sons, of Bendena, Kansas, just recently sold a Poland China boar to be shipped to South America. This firm has been breeding Poland China hogs for over forty years and has furnished foundation stock to start new herds in almost every state in the Union. They have at the head of their herd King Bob by Long Bob and his dam was Mammoth King by King of Wonders. This boar is an ideal type of Poland China and he is proving a valuable sire of the right type.

Hill & King, of Topeka, Kansas, have built up one of the profitable herds of Poland China hogs in Eastern Kansas. They grow their hogs in a way that insures their future usefulness. They have now in the herd a choice lot of spring boars and spring gilts that are well grown out, good breeding and the right type. While this firm has kept the most popular blood lines, they never have gone to an extreme in trying to produce a fat, but they grow the big, mellow useful Poland Chinas that mature early and that are the profitable feeders.

L. G. Wreath, of Manhattan, Kansas, has announced a combination hog sale to be held at the Kansas Agricultural College at Manhattan on October 25. The consignments to this sale will be from the Wreath farm and the Manhattan Pgi Club. The consignment will consist of twenty Duroc boars and twenty-six Duroc gilts sired by Critic Chief, the great boar shown by the

Spotted Poland China Hog Sale

At farm eight miles north and two east of Rossville, Kansas, one mile north and three east of Delia, Kansas.

On October 29, 1919



50 head, 25 spring and fall boars, 25 spring and fall gilts, 10 tried brood sows. Most of the boars and gilts are sired by Master Pride, he by Master K, dam Oxford Girl. All sows sold open. Please send for catalog and come to sale.

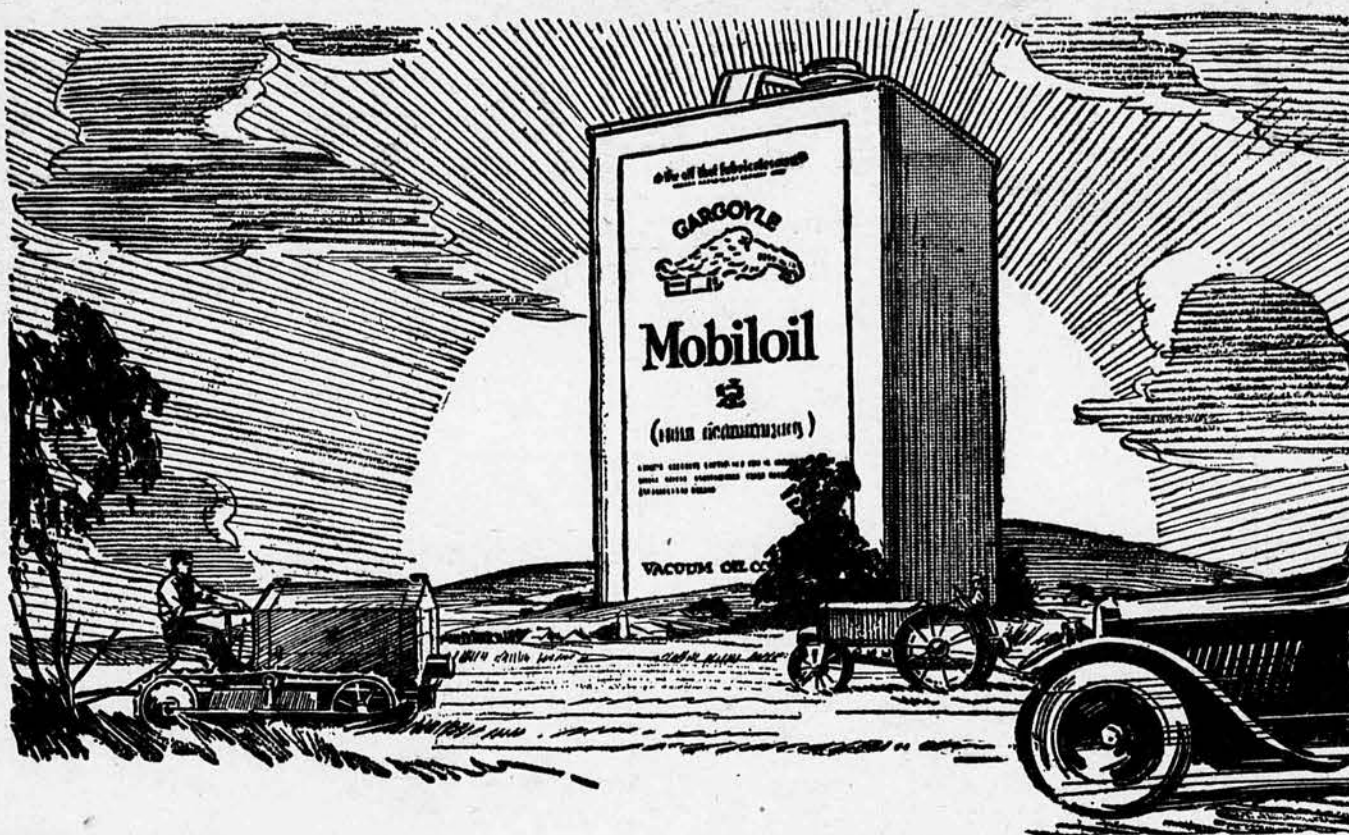
Geo. C. Eakin & Son,

Delia, Kansas

agricultural college at the Topeka Free Fair; Ideal Model Junior and Sensation Joe Orion. Also fourteen Spotted Poland China boars and gilts sired by the great spotted sires, Gates' Lad and Faulkner's Model. This will be one of the good offerings that will go through the sale ring this season.

Harry E. Myers, of Gardner, Kansas, held one of the most successful Poland China sales of the season at his farm on Saturday, October 11. The weather man favored

him with a perfect day, and a good crowd of anxious bidders with a splendid lot of well finished Poland Chinas made a snappy sale. Col. J. C. Price did the selling from the block, assisted by Will G. Lockridge and Col. Marshall in the ring. Forty-two head catalogued sold for an average of \$130. Twenty head averaged \$192.50 and forty head averaged \$133.68. This was the best lot of Poland Chinas ever sold from the Myers farm and was appreciated by farmers and breeders present.



Getting the most from Mother Earth

The part played by Correct Lubrication

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

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

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

The great war demonstrated two things:

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

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

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

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

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



Mobiloils

A grade for each type of motor

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

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

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

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

Correct TRACTOR Lubrication

How to read the Chart

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

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

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

TRACTORS	1918 Models	1917 Models	1916 Models	1915 Models
	Summer	Winter	Summer	Winter
Albion-Dover (Square Turn)	BB	A	BB	A
Allis-Chalmers	BB	A	BB	A
All Work	BB	A	BB	A
Andrews	BB	A	BB	A
Appleton	BB	A	BB	A
Aultman-Taylor	BB	A	BB	A
Avery	BB	A	BB	A
Bates Steel Mule	BB	A	BB	A
Best	BB	A	BB	A
Big Bull	BB	A	BB	A
Bower City	BB	A	BB	A
Buckeye (Indiana)	BB	A	BB	A
Buckeye (Indiana) (Cylinder)	BB	A	BB	A
Casa	BB	A	BB	A
Casa (10-12)	BB	A	BB	A
Casa (12-20)	BB	A	BB	A
Casa (20-40)	BB	A	BB	A
Chase	BB	A	BB	A
Cleveland	BB	A	BB	A
Commonwealth	BB	A	BB	A
C. O. D.	BB	A	BB	A
Corn Belt	BB	A	BB	A
Creeping Grip	BB	A	BB	A
Emerson-Bryantingham	BB	A	BB	A
Emerson-Bryantingham (Big Four)	BB	A	BB	A
Emerson-Bryantingham (Heavy Duty)	BB	A	BB	A
Farm Horse	BB	A	BB	A
Flour City	BB	A	BB	A
Galley	BB	A	BB	A
Gas Pull (Rumley Co.)	BB	A	BB	A
Grain Belt	BB	A	BB	A
Gray	BB	A	BB	A
Happy Farmer	BB	A	BB	A
Hart Parr	BB	A	BB	A
Heider	BB	A	BB	A
Holt Caterpillar	BB	A	BB	A
Huber	BB	A	BB	A
Imperial	BB	A	BB	A
Ingersoll	BB	A	BB	A
Kardell	BB	A	BB	A
K. C. Prairie Dog	BB	A	BB	A
Kinland	BB	A	BB	A
Lion	BB	A	BB	A
Little Chief	BB	A	BB	A
Little Giant	BB	A	BB	A
Maytag	BB	A	BB	A
Minneapolis	BB	A	BB	A
Mogul (I. H. Co.)	BB	A	BB	A
Moline Universal	BB	A	BB	A
New Age	BB	A	BB	A
Nichols & Shepard	BB	A	BB	A
Nileon	BB	A	BB	A
Oil Pull (Rumley Co.)	BB	A	BB	A
Parrett	BB	A	BB	A
Pearce	BB	A	BB	A
Pioneer	BB	A	BB	A
Flow Boy	BB	A	BB	A
Flow Mule	BB	A	BB	A
Pontiac	BB	A	BB	A
Pumley	BB	A	BB	A
Russell	BB	A	BB	A
Simplex	BB	A	BB	A
Standard	BB	A	BB	A
Strain	BB	A	BB	A
Titan (I. H. Co.)	BB	A	BB	A
Tom Thumb (4 cyl.)	BB	A	BB	A
Twin City	BB	A	BB	A
Waller	BB	A	BB	A
Waterloo Boy	BB	A	BB	A
Whitcomb	BB	A	BB	A
Yuba	BB	A	BB	A

Correct AUTOMOBILE Lubrication

How to read the Chart

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

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

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

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

AUTOMOBILES	1918 Models		1917 Models		1916 Models		1915 Models		1914 Models	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Abbott.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Abbott-Detroit.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Allen.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Apperson.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Auburn.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (6-30 & 6-32).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (6-32 motor 18".....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (6-32) (Cont'l.).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Autocar (8 cyl.).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Briscoe.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Buick.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Cadillac.....	A	A	A	A	A	A	A	A	A	A
Cam.....	Arc.	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
Chalmers.....	Arc.	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
" (6-40).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (6-30).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Chandler Six.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Chevrolet.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (F A).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Cole.....	A	A	A	A	A	A	A	A	A	A
" (8 cyl.).....	A	A	A	A	A	A	A	A	A	A
Cunningham.....	A	A	A	A	A	A	A	A	A	A
Darr.....	A	A	A	A	A	A	A	A	A	A
" (Mod. C).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (7 & 3 1/4 ton).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Detroit.....	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Dodge.....	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A
Dort.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Empire (4 cyl.).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (Mod. S).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Federal.....	A	A	A	A	A	A	A	A	A	A
" (Mod. S-X).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (Special).....	Arc.	Arc.	A	Arc.	B	Arc.	B	Arc.	B	Arc.
Fiat.....	E	E	E	E	E	E	E	E	E	E
Ford.....	E	E	E	E	E	E	E	E	E	E
Franklin.....	A	A	A	A	A	A	A	A	A	A
Grant.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Hal-Treadwell.....	A	A	A	A	A	A	A	A	A	A
Haynes.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (12 cyl.).....	A	A	A	A	A	A	A	A	A	A
Hudson.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (Super Six).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Hupmobile.....	A	A	A	A	A	A	A	A	A	A
Kelly Springfield.....	A	A	A	A	A	A	A	A	A	A
" (8 cyl.).....	A	A	A	A	A	A	A	A	A	A
" (Com'l).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Kiesel Kar.....	A	A	A	A	A	A	A	A	A	A
" (Mod. M).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (12 cyl.).....	A	A	A	A	A	A	A	A	A	A
Lexington.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Lippard Six.....	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.
" (Mod. M).....	A	A	A	A	A	A	A	A	A	A
" (Mod. MIV).....	A	A	A	A	A	A	E	A	E	A
Locomobile.....	A	E	E	E	E	E	A	Arc.	A	Arc.
Madison.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (8 cyl.).....	A	A	A	A	A	A	A	A	A	A
Marmon.....	A	A	A	A	A	A	A	A	A	A
Maxwell.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Mercer.....	A	A	A	A	A	A	A	A	A	A
" (27-70).....	A	A	A	A	A	A	A	A	A	A
Mitchell.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Moline-Knight.....	B	A	A	A	A	A	A	A	A	A
National.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (12 cyl.).....	A	A	A	A	A	A	A	A	A	A
Oakland.....	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.).....	A	A	A	A	A	A	A	A	A	A
Oldsmobile.....	A	A	A	A	A	A	A	A	A	A
Overland.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Packard.....	A	A	A	A	A	A	A	A	A	A
" (12 cyl.).....	A	A	A	A	A	A	A	A	A	A
" (Com'l).....	A	A	A	A	A	A	A	A	A	A
" Paige (4 cyl.).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (6 cyl.).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (6-30).....	A	A	A	A	A	A	A	A	A	A
" (6-38-30).....	A	A	A	A	A	A	A	A	A	A
" (6-40).....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Paterson.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Pathfinder.....	A	A	A	A	A	A	A	A	A	A
" (12 cyl.).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Peetlee.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Pierce Arrow.....	A	A	A	A	A	A	A	A	A	A
" (Com'l).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Regal.....	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Renault (French).....	A	A	A	A	A	A	A	A	A	A
Rex.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Riker.....	A	A	E	E	E	E	E	E	E	E
Saxon.....	A	A	A	A	A	A	A	A	A	A
Selden.....	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (16 ton).....	A	A	A	A	A	A	A	A	A	A
Stearns-Knight.....	B	A	A	A	A	B	A	B	A	B
" (8 cyl.).....	B	A	A	A	A	B	A	B	A	B
Studebaker.....	A	A	A	A	A	A	A	A	A	A
Stutz.....	A	A	A	A	A	A	A	A	A	A
Velie.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (2 & 3 1/2 ton).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (4 ton).....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Westcott.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
White.....	Arc.	Arc.	Arc.	Arc.	Arc.	A	B	A	B	A
Willis Knight.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Willys Six.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Winton.....	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.