

KANSAS FARMER

For the improvement  of the Farm and Home

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WORK OF A FARM BUREAU

Much Progress Made Through Co-Operation of Bureau Members

By R. E. LEWIS, Paola

THAT the raising of more live stock and the devoting of more attention to the dairy business is more profitable to the farmers of Eastern Kansas than is the raising of crops, is the conclusion advanced in the annual report of the Miami County Farm Bureau, issued by O. C. Hagans, county agricultural agent.

The report covers the work of the bureau for the year 1916 and sets forth the following facts, which were established as a result of work done during that period:

Grain crops cannot be relied upon continuously.

Live stock pays even when crops fail.

The better paying farms average ten more head of live stock than the average farm.

The better paying farms were more heavily stocked for each acre of pasture and of crops than the average farm.

The stock on the better paying farms returned \$19 more per head than the average of the area.

Forage and grass crops succeed when grain is a failure.

"The season of 1915 was exceptional in that practically all of the grain crops failed on many farms," says the report. "The man who had nothing but crops was very unfortunate, as the larger his area the more he lost. The only group of men who did not lose much are those who had a large bunch of live stock in connection with the large crop area.

Farming has not been a profitable business on many of the farms of Miami County. On others it has paid well. In some instances the failure to make a profit has been attributed to one cause while in other cases this "unprofitable farming" was accounted for in other ways. This led to a need for an investigation, which brought forth as a remedy for the leak in the profits the above six principles. The investigation was conducted among sixty-three farmers of the county and was made by P. E. McNall, farm management demonstration specialist of the extension department of the Kansas Agricultural College.

At the annual meeting of the farm bureau last year the project of live stock improvement was discussed and was approved as needing the attention of the bureau. The plan was to advance the interests in the live stock of the county in the following ways:

By holding township colt shows, fairs and stock judging contests, and encouraging all county fairs.

By conducting feeding and management demonstrations.

By assisting in buying, selling and exchange of pure-bred live stock and encouraging co-operative breeding.

By issuing circular letters and newspaper articles and conducting campaigns for the betterment of the live stock interests of the county.

Following the above plan, township colt shows and community fairs were held at Spring Ridge, Fontana and Wea. The total attendance at these fairs was 3,600. The total number of colts and other live stock exhibited was 150. Stock judging contests were held at two of these fairs and proved to be very interesting. At each of these meetings

a demonstration in judging live stock and pointing out the unsoundness in horses was given. The demonstrations were very interesting and highly instructive to the farmers of Miami County and the bureau considers them of great value in improving the live stock interests of this community.

During the past year there have been several outbreaks of hog cholera on farms in different sections of the county. Prompt action on the part of all concerned has kept the disease from spreading to but few farms and in several instances it has been confined to the farm where it first appeared. Notification of neighbors, vaccination of the herd where disease first appeared and of surrounding herds and a strict quarantine of all diseased hogs, placing them in a small enclosed pen, burning thoroughly and immediately every hog that dies and urging all neighbors to take every precaution to keep from carrying it to their herds, are the most important measures which have been observed in controlling the cholera, according to the management of the farm bureau.

A plan which meant better eggs, more pay to the farmers, less loss to the dealer and a less number of spoiled eggs to the consumer, was put in force by the bureau in the inauguration of what was known as "Rooster Week," which was observed May 22 to 27. More than 3,000 roosters were shipped out of the county during Miami County's "Rooster Week." Dealers handled roosters that week without a commission, which means that the dealers of the county paid the farmers about \$250 or \$300 more for the roosters than they would have paid for the same number of roosters if there had been no campaign to get the roosters out of the county.

Since corn is the leading money crop in Miami County, it was planned by the farm bureau to conduct variety tests with corn in every township in the county. At the present time there are a large number of varieties of corn being grown upon the soils of this county, which are not well adapted to the soil and climatic condition of the county. This fact has been demonstrated by the results of the corn variety tests in this

county the past two years and by the results from the state experiment station, obtained from similar tests in this section of the state for a period of six years. These tests have demonstrated that the medium early maturing varieties of corn are better yielders on the upland soils of the county than either the late maturing varieties or the extra early maturing varieties. Shawnee White Dent proved to be a good yielder, maturing medium early, and a number of farmers are expecting to use this variety of corn this season.

In order to obtain the best yielding strains of a variety of corn, W. E. Hays and Earl Aiken each conducted an ear-to-the-row test last season from which they selected seed from the highest yielding rows. By continuing the test for a period of three or four years as these corn breeders expect to do, they will have selected a strain of their varieties of corn which will be a higher yielder than the average seed of the same variety which has been field-selected. It was found that some of the ears produced three times as much as other ears that were seeded in rows the same length and with practically the same number of stalks in each row.

The farm bureau also conducted clover demonstrations, wheat variety tests, fertilizer tests on wheat, fertilizer tests on alfalfa, treating oats for smut, silage crop demonstration tests, forage crop tests, urged co-operation in control of insect pests, boosted community welfare work, assisted in boys' and girls' club work, organized pig clubs for boys and canning clubs for girls, conduct a "for sale and exchange" bureau which is a clearing house for farmers who wish to purchase live stock or who wish to dispose of any articles on their farms.

Mr. Hagans, the county agricultural agent, and all who are connected in any way with the farm bureau, are highly gratified with the accomplishments of the past year. It has been very helpful to the farmers and has done more to further the agricultural interests of this section of Kansas than any other agency.

Miami County boys won eight prizes at the state corn contest held at the agricultural college during Farm and Home Week, and at the Hutchinson fair last fall. The prizes included: Sweepstakes on best exhibit at Hutchinson, two first prizes and one second prize. In the state corn contest at Manhattan the boys won one first, one third and one sixth prize, and the first prize in the rope tying contest. Roy Slyter, of Fontana, tied twenty-five different kinds of knots in five minutes, walking away with first money.

H. J. Brann, of Stafford County, produced 30 bushels of wheat to the acre last year on summer fallowed land. This is more than double the yield he had been securing by the usual methods of preparation on this same land. Mr. Brann firmly believes that all the wheat farmers of that section will sooner or later take up summer fallowing for wheat. He maintains that this method will bring better returns and at less expense to the wheat grower.

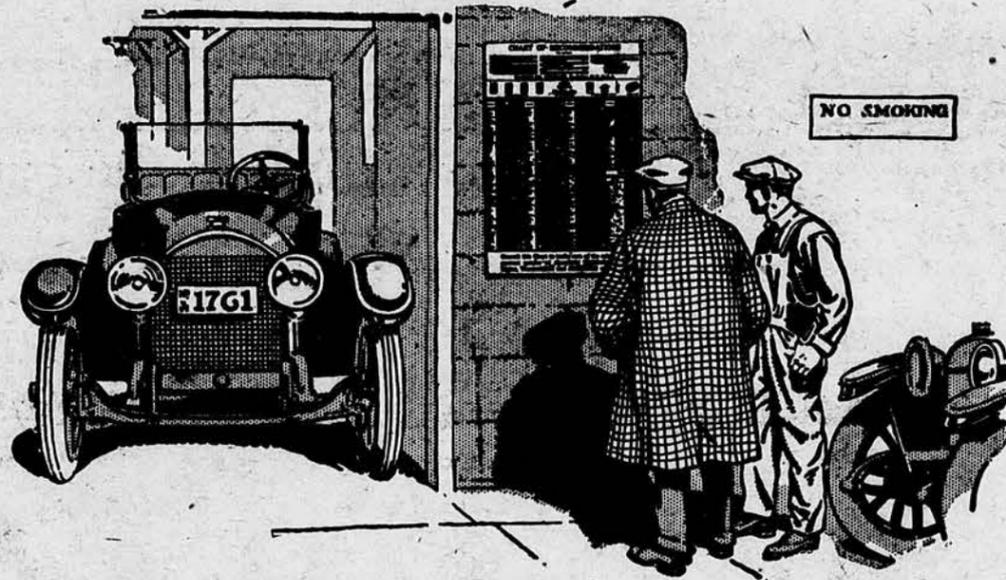


MIAMI COUNTY FARM BUREAU MEMBERS INSPECTING P. L. WARE & SONS' PURE-BRED POLAND CHINAS



ABOUT TWO THOUSAND PEOPLE ATTENDED COMMUNITY FAIR ON FARM OF M. A. KELLY, MEMBER OF MIAMI COUNTY FARM BUREAU

Make this Chart your Guide



Look for it on your dealer's wall

Your oil runs low. You stop for a fresh supply.

You now come to a vital question. What oil will the dealer pour into your oil-reservoir? Will it be just "oil"—or will it be the correct lubricant for *your* engine?

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In keeping this Chart up to date, each new model of every automobile is carefully analyzed. This work involves lengthy and painstaking engineering study by the Vacuum Oil Company's Board of Engineers. The recommendations of this Chart are proven correct by repeated practical tests.

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- Gargoyle Mobiloil "B"
- Gargoyle Mobiloil "E"
- 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 pleasure and commercial vehicles unless otherwise noted.

Model of	1917		1916		1915		1914		1913	
	Summer	Winter								
Abbott-Detroit	Arc									
Allen (8 cyl)	A	A	A	A	A	A	A	A	A	A
American Six	Arc									
Apperson	A	A	A	A	A	A	A	A	A	A
Auburn (4 cyl)	Arc									
Autocar (2 cyl)	A	A	A	A	A	A	A	A	A	A
Avory (Mod. 5 & 6 ton)	Arc									
Brisson	A	A	A	A	A	A	A	A	A	A
Buick (8 cyl)	Arc									
Cadillac (8 cyl)	A	A	A	A	A	A	A	A	A	A
Case (Mod. 6-40)	A	A	A	A	A	A	A	A	A	A
Chalmers (Mod. 6-30)	A	A	A	A	A	A	A	A	A	A
Chandler Six	Arc									
Chase (10)	B	B	B	B	B	B	B	B	B	B
Chase (water)	A	Arc								
Chevrolet	Arc									
Coburn (8 cyl)	A	A	A	A	A	A	A	A	A	A
Cunningham	Arc									
Daniel (8 cyl)	A	A	A	A	A	A	A	A	A	A
Dart (Mod. C)	Arc									
Delaney-Belleville	A	A	A	A	A	A	A	A	A	A
Detroit (8 cyl)	Arc									
Dodge	A	Arc								
Dort	Arc									
Empire (4 cyl)	Arc									
Federal (8 cyl)	Arc									
Fiat	A	A	A	A	A	A	A	A	A	A
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	A
Grout	Arc									
H. A. L.	A	A	A	A	A	A	A	A	A	A
Haynes (12 cyl)	A	A	A	A	A	A	A	A	A	A
Hollis (8 cyl)	A	A	A	A	A	A	A	A	A	A
Hudson (Super Six)	A	A	A	A	A	A	A	A	A	A
Hupmobile	Arc									
I. H. C. (10)	A	A	A	A	A	A	A	A	A	A
I. H. C. (water) (4 cycle)	A	Arc								
Intarlate	A	Arc								
Jackson	Arc									
Jackson (8 cyl)	A	A	A	A	A	A	A	A	A	A
Jeffery (Chatterfield)	Arc									
Com'l.	A	A	A	A	A	A	A	A	A	A
Jordan	Arc									
Kearns	E	E	E	E	E	E	E	E	E	E
Com'l.	A	A	A	A	A	A	A	A	A	A
Kelly Springfield	A	A	A	A	A	A	A	A	A	A
King (8 cyl)	A	A	A	A	A	A	A	A	A	A
Com'l.	Arc									
Kimel Kar.	A	A	A	A	A	A	A	A	A	A
Com'l.	Arc									
(Mod. 48)	A	A	A	A	A	A	A	A	A	A
Koon	B	B	B	B	B	B	B	B	B	B
(Mod. 35)	A	A	A	A	A	A	A	A	A	A
Lexington	Arc									
Liberty (Detroit)	Arc									
Lippard Stewart	Arc									
(Mod. M)	A	A	A	A	A	A	A	A	A	A
Loomobile	E	E	E	E	E	E	E	E	E	E
Marion Handley (Mod. 6-40)	A	A	A	A	A	A	A	A	A	A
Marmon	A	A	A	A	A	A	A	A	A	A
Maxwell	Arc									
Mercury (22-70)	A	A	A	A	A	A	A	A	A	A
Mitchell	Arc									
Mitchell (8 cyl)	A	A	A	A	A	A	A	A	A	A
Moline	Arc									
Com'l.	A	A	A	A	A	A	A	A	A	A
Moon (4 cyl)	Arc									
Murray (8 cyl)	Arc									
National	Arc									
(12 cyl)	A	A	A	A	A	A	A	A	A	A
Oakland (8 cyl)	Arc									
Oldsmobile	Arc									
Overland	Arc									
Owen Magnetics	Arc									
Packard (12 cyl)	A	A	A	A	A	A	A	A	A	A
Paige (6-46)	Arc									
(6-36 & 38)	Arc									
Pathfinder (12 cyl)	A	A	A	A	A	A	A	A	A	A
Pierce Arrow	Arc									
(8 cyl)	A	A	A	A	A	A	A	A	A	A
Com'l.	Arc									
Pullman	A	A	A	A	A	A	A	A	A	A
Regal (8 cyl)	Arc									
Renault	Arc									
Reo	Arc									
Richmond	Arc									
Riker	E	E	E	E	E	E	E	E	E	E
Saxon	E	E	E	E	E	E	E	E	E	E
Scrappe-Booth (air) (water)	A	A	A	A	A	A	A	A	A	A
(8 cyl)	A	A	A	A	A	A	A	A	A	A
Scion	Arc									
Simplex	A	A	A	A	A	A	A	A	A	A
Standard (8 cyl)	A	A	A	A	A	A	A	A	A	A
Stearns-Knight	A	A	A	A	A	A	A	A	A	A
(8 cyl)	A	A	A	A	A	A	A	A	A	A
Sterling (Wisconsin)	A	A	A	A	A	A	A	A	A	A
Studebaker	Arc									
Stutz	A	A	A	A	A	A	A	A	A	A
Valie (8 cyl)	Arc									
(6 cyl)	Arc									
Vim	Arc									
Westcott	Arc									
White	A	A	A	A	A	A	A	A	A	A
Willis-Knight	A	A	A	A	A	A	A	A	A	A
Willis Six	Arc									
Wilson	Arc									

Electric Vehicles—For motor bearings and enclosed chains use Gargoyle Mobiloil "A" the year 'round. For open chains and differential, use Gargoyle Mobiloil "C" the year 'round. **Exception**—For winter lubrication of pleasure cars use Gargoyle Mobiloil "Arctic" for worm drive and Gargoyle Mobiloil "A" for bevel gear drive.

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Agricultural Preparedness For War

THE United States has entered upon the great World War. War is a terrible thing and many of us are accepting it with heavy hearts, but having put our hands to the plow it becomes a patriotic duty to our nation and to the world-wide cause of humanity to bring every resource to bear in order to hasten the day when the world shall have universal peace. There need be no hatred in the hearts of the people of the United States in entering upon this great international adventure which we hope will result in speedily bringing liberty and peace to all nations and to all peoples.

Already we have felt the economic pressure coming from the taking of twenty-five millions of men from the ranks of production. With our own nation actively engaged, the effects and consequences of war will be brought to our very doors. Agriculture, the basic industry of our country, must back our armies if they are to succeed. The patriotism of the soldier is no greater than the patriotism of the people engaged in producing the food we must have, and that patriotism can find its outlet by the subordinating for the time being of the plans of individuals to the broad program of the nation's needs in this crisis.

The food situation of the nation was the subject of a national conference held in St. Louis this week, at the call and under the direction of D. F. Houston, Secretary of Agriculture. This conference was attended by Dr. H. J. Waters, president of the Kansas Agricultural College; W. M. Jardine, director of the Kansas Experiment Station and Dean of Agriculture; Edward C. Johnson, Dean of the Extension Division of the Kansas Agricultural College; J. C. Mohler, secretary of our Kansas State Board of Agriculture, and others of our agricultural leaders.

We feel that Kansas will do her part. This state has never been known to falter when the nation called, and this call for agricultural preparedness will be met with as much real patriotism as the call that takes the soldier to the training camp or the battle field.

SHUT down the breweries and distilleries, close the saloons, and utilize the grain and labor productively, was the constructive preparedness note in the address of President Waters, before the food conference at St. Louis this week.

"We face the problem of very soon supporting two million men in army camps," said President Waters. "We must also feed our own people at home while they produce munitions and equipment for our soldiers and those of our allies, and we must also assist in supplying our allies with food.

"We are entering upon one of the greatest of wars without any reserve of food. Germany spent years in accumulating a food reserve to prepare herself for this emergency. This country's visible supply of food, however, will be consumed before another harvest. If we should have an unfavorable season, this country will face the greatest food shortage it has had since the Civil War. We must therefore immediately proceed to increase our food output and to practice the most rigid economy in the consumption of products already produced.

"Since the American soldier lives on hardtack, pork and beans, we must increase at once these army necessities. We must increase the bean acreage this year. In the North and West we can grow a larger acreage of the navy bean, and in the South and West of the Mexican and Tepary bean. We must increase our pork production by breeding all the sows for fall litters and holding

a reserve of corn to winter and fit the new output for the spring market. We must increase our bread supply by milling all our wheat to 81 per cent flour instead of 73 per cent, as at present. In this way we can increase our flour output eighteen million barrels on our present production, thus increasing the bread-carrying capacity of this country by twelve million people. This is the only way we can increase this season's bread supply.

"Such an increase in the bread supply will occasion a corresponding decrease in stock feed supplies. On the other hand, a large saving in grain suitable for fattening live stock can be made by shutting down the breweries and distilleries. By closing the saloons and shutting down the breweries and distilleries of the country, we would save annually 618,508,095 bushels of grain. We would release for productive labor 101,755 laborers now engaged in manufacturing liquor, 17,736 retail dealers, and perhaps twice as many bartenders now employed in the liquor business. We would also release others connected with the traffic, such as policemen, constables and other officers, penitentiary guards, and attendants of our hospitals and almshouses. Even large numbers of our doctors could then be spared to care for the sick and wounded in the army. Much of this labor could be utilized on the farms, thus helping to solve the greatest difficulty in the way of a permanent increase in the national food supply. In addition to all this, the equipment of our breweries and distilleries could be put to work to manufacture munitions, to refine fuel oil for farm tractors, and even to can fruits and vegetables.

"The United States can meet the emergency before her only by directing her labor into the most productive channels and by applying her intelligence to the production and conservation of her food supply."

LET the army of children between the ages of ten and eighteen years grow garden produce for immediate use, and can the surplus for future consumption, and much will be done towards solving the food problem in this country," said Dean Edward C. Johnson. "Under proper direction additional foodstuffs valued at more than 400 million dollars could be produced.

"Many children have nothing special to do. Even on the farm there are many of them whose efforts, if well directed, could be made more effective and worth while from an economic standpoint, and all this without the so-called 'child labor' where children are employed in heavy work from early morning until late at night.

"These children can be of great use in the farm home, on the farm, in the village home and in the village garden. If only a portion of this army were put to work producing table products, the results would be astonishing. In the Glenwood community in Leavenworth County, Kansas—a typical farm community—there is a canning club which has as one of its principal objects the growing of garden produce and the canning of the surplus for home use during the winter months. This club consists of thirty mother-daughter teams. During the season of 1916 the club grew and canned more than 11,000 quarts of garden and orchard products in addition to the products used on the table during the gardening season. This was at the rate of 366½ quarts for each team.

"If only one-half of the 10,755,790 rural families in the United States—families living in the open country and in incorporated towns of less than 2,500 at the time of the 1910 census—did as well, they would produce and put up for

winter use 1,971,561,500 quarts, which if valued at 15 cents per quart—a low estimate—would be worth \$295,714,225. This would supply every rural family in the United States with one pint of food products per day for every day in the year, and thus would release an equally large quantity of other products more easily transportable, for use in the army or in the laboring families in the city.

"If one-fourth of the 9,499,765 urban families—families living in cities of more than 2,500 population, census of 1910—did equally well by gardening in back yards and on vacant lots, 872,560,916 quarts of products valued at \$130,804,137 would be produced. Combining the products of the rural and city population, the value of the food produced would be \$426,608,362.

"A beginning towards the mobilization of this potential army of workers has already been made in the gardening and canning clubs throughout the country conducted through the extension service of the various agricultural colleges and through the school systems. This army needs to be adequately organized into club groups with leaders for every club. Every club of six or more boys and girls should have some older person to direct its activities. This leader may be a mother, a father, a school teacher, or any public spirited citizen. The boys and girls themselves organize by electing officers and selecting the type of work which they wish to follow. They then get in touch with the agricultural college and the necessary instructions are sent them.

"That the children are glad to do this work has been demonstrated already in the history of clubs. No member of last season's corn clubs, pig clubs, poultry or sorghum clubs in Kansas made as high profits as did the members of the garden clubs of the state. A little fourteen-year-old girl made a net profit of \$20 from one square rod of garden. Add to this normal interest the stimulus of a patriotic interest, and the army will be far more effective than it is in a normal year."

IF OUR armies are to succeed we must back up the patriotism of the soldier by the patriotism of increased production," said W. M. Jardine in addressing the conference. "As yet no scheme has been put into operation comprehensive enough to conserve all our commodities from the period of surplus to that of shortage. We must immediately enter upon a plan to utilize to the best advantage our total staple—grain, beef, pork, dairy, poultry, garden, and orchard products.

"We must get ready now for the planting of a large wheat acreage next fall. Kansas seeded eight and one-half million acres of wheat last fall. The fall and winter conditions have already made nearly three million acres worthless. This land must be planted to corn and grain sorghums in such a way as to leave it in the best shape for wheat this coming fall. If the corn is planted in rows seven feet apart instead of three and one-half feet, according to experiments carried on at the Fort Hays branch experiment station, the ground will produce a maximum yield and will still be left in the best possible shape for the production of wheat.

"There is yet plenty of time to increase this season's corn yield. This can be done by the selection of good seed and by the proper preparation of the ground for planting.

"We have been negligent in the conservation of our meat supply. Last year we lost 200,000 hogs or \$3,000,000 worth of pork in Kansas from cholera alone—a disease that can be absolutely controlled by proper co-operation.

"By giving the dairy cows better care and feed it is possible to increase the total dairy product from 10 to 25 per cent. Better feed for dairy cattle might be secured by the proper co-operation of the owners of mills, elevators and feed stores in the preparation of properly balanced grain rations. Such co-operation would have an immediate effect in increased dairy products. Kansas has increased its beef animals 33 per cent within three years. We cannot support more beef animals without raising more feed. We can easily support many more beef animals if more feed is produced.

"If poultry raisers would eat their roosters as soon as the breeding season is over, and feed their hens properly, they could easily double the eatable eggs this present year. The price of eggs is higher this year than last because of the increased price of feed.

"Because of the high cost of seed potatoes, a one-third less acreage in potatoes is the present prospect for Kansas this year. There are plenty of seed potatoes in the country. The only way to get this seed and arrange for an immediate planting is to provide some means whereby farmers may be advanced the money to secure the seed. Immediate action on this point is absolutely necessary if the potato product of the country is to be up to standard.

"If we send no men to the front we would still have a labor shortage. We must call on the children and even upon the men and women in our cities to work back yard gardens. We are not worried with the problem of feeding the farmer, but we need to worry over the problem of feeding our cities. Thousands of acres of vacant city lots can be utilized and thousands of hours of idle time may be thus profitably employed. The people in cities must learn to can fruits and vegetables, and have their vegetable supplies in the cellars the same as do the people in the country.

"We can produce enough food products if we can arrange the machinery for proper distribution. I believe we can have a proper distribution and control of our food output only under the supervision of a federal advisory committee, and probably under the immediate direction of our army. We are organized for production. We must organize at once for distribution and marketing."

In emergencies, it may be necessary for some patriots to unyoke the oxen and leave the plow standing in the furrow, but the lasting support of a nation requires efficient patriots to keep the plows going. The soil supports the corn; corn supports animals; corn and animals support an army; and "armies fight on their bellies." Let us properly care for the goose that lays the golden egg.

The forehanded farmer is planning right now for next winter's feeding and these plans should include silage. Indications are that more silos will be built the coming summer than in any previous year. Silo manufacturers are already receiving heavy orders. The farmer who intends to buy should order at once, while he who would build should be planning for labor or materials. Every silo filled last fall in Kansas paid for itself in one season, and the chances are that similar results may be obtained by those who build silos this year.

An abundance of hot water and only clean cloths used in caring for the milk pails, strainer, separator and cream cans, will help to make the cream first grade quality. Careless handling of the milk utensils will soon pass the cream on to second and third grade, especially during warm weather.

SUDAN PROVES WORTH

New Forage Crop Has High Feed Value and Fits Kansas Conditions

SUDAN GRASS has steadily grown in favor since its introduction in Kansas some four or five years ago. It will probably be grown on many farms this year for the first time. For this reason full information as to how to grow and handle the crop will be valuable to many of our readers.

The introduction of a forage crop having the adaptability and high feeding value of Sudan grass, will help greatly in promoting live stock farming. This is one of the great needs of the agriculture of our state. Finding and introducing so useful a plant as Sudan grass will bring the best returns by associating its production with a system of stock farming in which the animals are kept to market all that is grown as fully as possible.

At the meeting of the Kansas Crop Improvement Association which was held in Manhattan February 6, during Farm and Home Week, H. N. Vinall, of the Federal Department of Agriculture, gave a most instructive address concerning this new forage crop. Mr. Vinall has had wide experience in the introduction and development of new crops of this character and his statements are authoritative. In what follows we have drawn liberally from this address.

PLACE IN CROPPING SYSTEM

Mr. Vinall pointed out that Sudan grass is not a money crop in the ordinary meaning of that term, nor is it a soil improver. It must be used, therefore, to supply roughage or hay for farm stock. There may come a time when large acreages of it will be grown for the Kansas City and Fort Worth markets, but there seems no immediate prospect of this. Although such a practice might be found profitable. It can be used often as a catch crop, if the corn crop has been ruined by continued wet weather during the planting season or the wheat crop has been destroyed by the army worm or the green bug, there would yet remain time to plant and grow a crop of Sudan grass hay. No market rating has been established for Sudan grass hay, but there is little doubt that it could be sold at a fair price on any of the western hay markets if it were properly cured and baled.

The farmers in eastern Kansas will use it most often as a catch crop, seeding it in preference to millet when they feel the need of an emergency hay crop. In the western part of the state where alfalfa and other tame hays cannot be grown successfully Sudan grass should be quite generally grown. Properly handled it is quite as dependable a crop as sorghum or millet and the quality of the hay is better than that of either of these crops. These statements are based on actual experiments at the Hays and Tribune experiment stations.

HISTORY OF INTRODUCTION

It is now eight years since the United States department of agriculture obtained from the agricultural inspector at Khartoum, Egypt, eight ounces of the seed of a grass which the natives there called "garawi". This garawi was grown under cultivation in the lower valley of the Nile, but its real home is farther up this great river in the semiarid Sudan, where it has been found growing wild by travelers. The natives seem not to value this grass very highly either in Egypt or in Sudan, and the inspector at Khartoum was greatly surprised at the enthusiasm it awakened in the United States. The grass belongs to the same botanical group as the cultivated sorghums, and is closely related to the ordinary sorghum or cane, as it is commonly called.

Practically all the Sudan grass in the United States at the present time has come from this one-half pound sample obtained in 1909. No other introduction of the department ever sprang into such immediate popularity. Three years after the first seed was brought into this country a limited distribution was made mostly to state experiment stations, and by 1913 farmers were clamoring for seed of it. Those who were fortunate enough to possess small acreages of the grass were selling their surplus seed at prices ranging from 50 cents to \$2.25 a pound. Visions of easy and sure wealth floated before the eyes of the Sudan grass farmer, as the grass produced from 500 to 1,200 pounds of seed to the acre. A Sudan grass seed asso-

ciation was formed in western Texas, and nearly three million pounds of seed were produced by this organization in 1914 and stored in a warehouse. Remembering only the prices obtained the previous year when the demand was much greater than the supply, "they hitched their wagon to the stars" and set their price at \$1 per pound, overlooking the fact that continued and rather extensive distributions by the United States Department of Agriculture had scattered the seed over the entire United States, and that local centers of distribution existed in nearly every state where less avaricious growers were offering seed for 25 cents a pound or less. The result was inevitable. Men had been willing and anxious to pay a dollar a pound the year before in order to grow an acre for seed to sell to their

neighbors, but the number who were willing to pay such a price for seed to plant fields to cut for hay was very limited. So, in spite of a \$40,000 advertising campaign, two-thirds of the seed remained in their warehouse unsold the following year. In 1915 the seed was fairly abundant and could be obtained at a reasonable price. Under these conditions the acreage of Sudan grass increased enormously and in 1916 there were 31,000 acres in Kansas alone. Texas no doubt leads in Sudan grass production, with Oklahoma and Kansas close seconds.

An unfavorable season in the southern great plains the past year has caused another shortage of seed and prices are again high, but this condition is not apt to continue long.

In the western third of Kansas it has been found more profitable to plant Sudan grass in rows 36 to 44 inches apart and cultivate as one would corn or sorghum. East of this portion, which would be set off by a line running north and south somewhere near Ellis, Kansas, Sudan grass will yield fully as much if sown broadcast or with an ordinary grain drill as when planted in rows and cultivated. Besides avoiding the expense of cultivation by this method of planting, the hay is finer and cleaner and the harvesting can be done with the ordinary haying implements, a mower and rake, so that, unless the price of seed is prohibitive, drilled or broadcast seedings are recommended for Central and Eastern Kansas. When seeding in rows it is possible to plant with a lister on wheat stubble and little seed bed preparation is necessary. It will be found advisable, however, to open up the stubble the preceding summer after wheat harvest in order to stop the growth of weeds. The lister furrows should run east and west and can be left open during the winter so as to catch the snow. Late the following spring the ridges can be split with the lister when the Sudan grass is planted, leaving the ground in good condition for cultivation. In using a lister or corn planter care must be observed to avoid covering the seed too deeply. One inch or less is enough unless the soil is very sandy or dry.

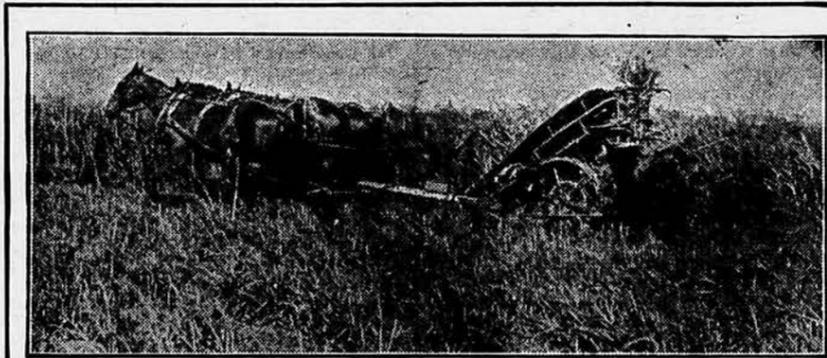
Better stands are usually obtained from surface planting than from listing because the furrows are often filled up by dashing rains or by windstorms and the seed buried so deeply that the seedling cannot come through. When planting on the surface the ground must be plowed previously and put in good condition with a drag harrow, after which the seed can be planted with an ordi-

nary corn planter or with a grain drill by stopping up the required number of feeds so that the distance between drills will be sufficient for the implements of cultivation. It is easier to regulate the amount of seed sown in a drill than it is in a corn planter, and the drill is most often used on the experiment station farms for this work.

When seeding broadcast or in close drills the ground is prepared for seeding in the same way that it is for surface planting in rows. Sudan grass seed, when well cleaned, can be seeded in an ordinary grain drill without inconvenience, and this method usually insures a better stand than where the seed is broadcast and covered with a disk or drag harrow.

DATE OF SEEDING

The period of seeding Sudan grass is



SUDAN GRASS IN M'PHERSON COUNTY BEING HARVESTED WITH BINDER

not very limited. From seedings made any time between May 1 and June 15 maximum yields may be expected. Earlier seedings give poor stands because of the cold soil and those made later than June 15 rarely encounter favorable conditions during the growing season except in wet years like 1915.

At Hays, Kansas, experimental seedings of Sudan grass have been made from April 15 to July 15 at two-week intervals. The average yields of four years' trials show the highest production from May 15 sowing, May 1, June 1, and June 15 seedings producing only a small fraction of a ton less to the acre.

Good advice then would be to seed whenever conditions are favorable between May 1 and June 15, regulating the time of seeding so that the hay will be ready to cut at a period when weather conditions are most likely to be favorable and other farm work will not be pressing.

RATE OF SEEDING

The amount of seed necessary varies with the rainfall. Broadcast or close-drilled seedings in the western third of the state should be made at the rate of ten to fifteen pounds; in the central third, fifteen to twenty pounds; in the eastern third, twenty to twenty-five pounds of good germinable seed to the acre. For planting in rows thirty-six to forty-four inches apart, two to three pounds in the western part; three to four pounds in the central section, and four to six pounds in the eastern portion of the state are the proper amounts of seed either for seed or hay purposes. A thick stand of plants in the row is conducive to a more uniform maturity. These statements are based on average yields secured at Hays as a result of three years' trials, the seed on the different plots being sown at the rates of ten pounds, fifteen, twenty, twenty-five, and thirty-five pounds to the acre.

These tests show that little difference in yield is to be expected from different rates of seeding where good seed bed conditions prevail. It is best, however, on the farms, to recommend somewhat heavier rates, because the busy farmer often fails to provide the best of conditions for seed germination, and the stand obtained is not so good as that on the experiment station plots. The thinner stands are apt to be troubled by weeds and the presence of weeds in the hay often accounts for the high yields of the lower rates of seeding. It is on this basis that the higher rates are recommended for the eastern part of the state. A wheat drill set to sow two pecks of wheat to the acre will ordinarily sow

about twenty-five to thirty pounds of Sudan grass seed.

SUDAN GRASS FOR SEED

Much more seed should be produced in Kansas than is being grown at the present time. Most of the state is free from Johnson grass and seed from such regions is in constant demand. The locality about Lubbock, Texas, seems especially favorable for seed production, and authenticated yields of 1,600 and 1,800 pounds of seed to the acre were harvested there in 1914. The yields in Kansas have very rarely exceeded 500 pounds to the acre, and for the state averaged about 300 pounds. Careful attention to the details of planting and cultivation should enable the grower to produce 500 pounds of seed per acre.

Fields intended for seed production should always be planted in rows and cultivated as described previously. Planted thus they can be harvested with a corn binder or an ordinary grain binder if the growth is not too heavy. Sudan grass seed can be threshed with an ordinary grain separator if care is used to regulate the air-blast so that the lighter seed will not be blown into the straw pile.

Good seed weighs forty pounds to the bushel when well cleaned, and it keeps well in storage, showing less tendency to heat than the ordinary sorghums. Johnson grass is the worst seed pest of Sudan grass and the seed of these two grasses are very much alike, but they can be distinguished by seed analysts. Johnson grass need not be greatly feared in Kansas, as it is easily eradicated here, but the presence of the seed in that of Sudan grass injures the sale of the latter and should be avoided by planting the Sudan grass on fields free from Johnson grass.

Threshed Sudan grass is a good roughage and can be used as a hay, thus adding considerable to the value of the seed crop. Farmers in the grass-seed producing sections of Northeastern Kansas should enter into the production of Sudan grass seed. Those who plant fields of Sudan grass for the production of seed should remember that Sudan grass crosses very readily with the sorghums. It is necessary, therefore, to see that the field is located at considerable distance—at least one-fourth mile—from any sorghums. Continued crossing with sorghum causes deterioration in the quality of the Sudan grass hay by making it coarser. The field should be "rogued" for the first year or two until a pure and uniform strain of seed is obtained. Present indications are that good germinable seed of Sudan grass will continue to sell at six or seven cents a pound retail, and should net the grower at least five cents a pound.

YIELDS OF SUDAN GRASS HAY

Most of the yields reported are of field-cured hay, which contains a rather high percentage of water. The yields for Texas in 1914 and 1915 averaged 3.8 tons to the acre. In Oklahoma for 1915, 3.6 tons, and in Kansas for the same year, four tons an acre. Of course, such yields cannot be obtained every year, but two cuttings can ordinarily be expected and the yields will average nearly as much as that from drilled sorghum and at least a third more than millet. Besides yielding well, Sudan grass is more easily cured as hay than sorghum, and is of better quality, so that there is less waste in feeding.

Sudan grass is exceedingly palatable, cattle, horses and sheep eat the hay greedily, and hogs apparently relish the pasture. There is also very little waste in feeding the hay when it has been well cured.

Practical tests in feeding Sudan grass hay have been carried out by the Kansas Experiment Station. These tests were designed to furnish a direct comparison between the Sudan grass, alfalfa hay, and kafir stover in wintering horses, maintaining growth in stock cattle during the winter, and in the matter of milk production. In all these tests the Sudan grass hay was consumed with evident relish by the stock and the results were quite satisfactory.

PASTURING SUDAN GRASS

More and more farmers are finding Sudan grass valuable as a summer pasture. The plant is known to contain prussic acid, which is a deadly poison, and in the coarser sorghum this acid has

(Continued on Page Nine)

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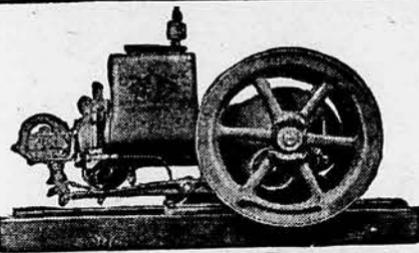
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Now is the time to begin the plans for fall and winter dairying. Pick the cows to be used and plan to provide feed for them. The winter milk checks help materially in the upkeep of living expenses—and many times do much more than this.

Feed Heifers Well

IT PAYS to give plenty of feed to beef heifers being developed for the breeding herd, but large use can be made of material having little or no commercial value. This was one of the important points brought out at the fourth annual round-up held at the Hays Experiment Station, April 5.

That beef breeding cows can be wintered in Western Kansas on feeds best adapted to soil and climatic conditions of that section was conclusively shown. Prof. W. A. Cochel stated that the farmer is justified in feeding well the females which he expects to develop into breeding cows. It was shown in the experimental work that where fed well the cows attain greater size, are more rugged, and are better mothers.

In one experiment eighty heifers were divided into two groups. This experiment started in December, 1915. Half of the cattle were fed in the winters of 1915 and 1916 four and one-half pounds of corn cob meal and one pound of linseed meal daily with alfalfa hay, silage, and straw. The second group was given no grain but the cattle were handled the same otherwise.

Each group is subdivided in the spring. Twenty head were taken out of each lot and placed in pastures by themselves. They were bred as yearlings. The other lots were grazed on similar pastures but not bred. The cattle were reassembled December 2, 1916, in the same manner as in the previous winter.

Lot 1 was fed three pounds of corn and one pound of cottonseed cake, with alfalfa hay, silage, and straw. The second lot was wintered without grain.

The bred heifers are thirty-five pounds heavier than those that were not bred. Those that have been well fed in the winter seasons weigh on the average 980 pounds, while those without grain average but 818 pounds.

Calves are now arriving in each lot. Those that were well fed are producing stronger and more vigorous calves, and have given less trouble at the time of calving. They have cost \$15 more per head to grow and handle than have the cattle in Lot 2. The general estimate of those present was that the cattle in Lot 1 are now worth \$25 a head more than those not given the extra feed. This indicates that it pays in dollars and cents to feed breeding heifers well. This experiment will be continued until all heifers are mature, at which time final conclusions will be made.

Five lots of three-year-old breeding cows—twenty to a lot—were used in another experiment. The object was to compare the value of feeding various combinations of alfalfa hay, cane hay, cottonseed cake, and silage. Lot No. 1 was fed sorghum hay and two pounds of cottonseed cake; No. 2, cane hay, one pound of cottonseed cake, and cane silage; No. 3, alfalfa hay and cane silage; No. 4, alfalfa hay and corn silage; No. 5, alfalfa hay and cane silage.

The most satisfactory gains were made in Lots 2 and 4. Lot 4 was the most economical of the five lots.

The results showed that where only cane hay is available two pounds of cottonseed cake or 10.9 pounds of alfalfa hay will furnish sufficient protein for the proper development of the dry cow.

It was shown that cane silage is not quite so efficient as corn silage when fed with alfalfa hay. It was found that eleven pounds of alfalfa, fifteen pounds of silage, and nine pounds of straw was the most efficient ration for winter feeding dry cows.

The third test was between cows that dropped calves in the fall and nursed them in the winter as compared with dry cows expected to calve in the spring. It cost \$7 more to winter a cow with calf at side than a dry cow on the same kind of feeds. Even then the dry cows made more rapid gains in live weight.

Range bulls, averaging 1,500 pounds, consumed an average of fifteen pounds of alfalfa, twenty-two pounds of silage, four and one-half pounds of straw, six and one-third pounds of sorghum hay, and one and six-tenths pounds of cottonseed cake per head daily and gained an average of 1.68 pounds per head per day. It was shown that it cost twice as much to winter a bull as a cow.

The meeting was well attended by stockmen from all sections of the western portion of the state. As many as 175 automobiles were counted at one time, and it is estimated that at least 200 machines were used in conveying the cattlemen to the meeting. Between 1,000 and 1,500 persons were present.

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IT IS the cow that gives back more than a dollar for a dollar's worth of feed that is the profitable one to keep, and the more she returns for the dollar the more profitable she is. The cow that does not pay for her feed is a loss to her keeper. He may not know it, but she is a loss to him just the same. The man who keeps a poor cow is working for that cow instead of making her work for him as she should do.

Our Dairy Club members all know what their cows have been doing, and we are glad to be able to say that so far all of your cows have been working for you—they have all been returning more than a dollar for a dollar's worth of feed.

One of the best things about the Dairy Club is your experience in keeping this individual record on your cow, and the more carefully you have kept track of the feed given her and the return she has made you for that feed, the more valuable will be your experience.

The keeping of cow records is not an unimportant task to be done carelessly or neglected when other things seem more important. This is work that every man who milks a cow can well afford to do. Indeed, many men have found fortunes by doing this very work—the records have shown them they had cows worth many, many times more than they would have believed had they not kept these records. It is in this way that the world champion milkers are discovered and it is in this way that certain cow families and herds become well known and famous. Through the keeping of records others have found that cows which they thought were good ones were not paying for their feed.

Think of this, boys and girls, if you feel like neglecting the careful weighing of the feed and milk, and remember that many men are doing this same work for the same purpose for which you are doing it, namely, in order that they may know where their cows stand among the producers of the dairy world.

Have You Paid for Your Cow?

Nine of our Dairy Club members have paid for their cows. And there may be others who have not written us about it. If you have paid for your cow and have not told us, we would be glad to hear from you about it. Even if you have not paid for your cow, we would be glad to know how much profit you have made from the sale of milk.

So far as the club awards are concerned, the boys and girls who have their cows paid for must work just as hard as ever or some other boy or girl will be ahead at the end of the year.

Has Paid His Note

Well my cow has paid for herself. I paid her off the first of March, and I was very glad. I paid the \$300 in eight months. She has averaged about thirty-eight pounds of milk a day for the first two weeks in March.

I had forgotten I hadn't told you about how I sell my milk. Well I retail it. You see Papa sells milk in Oakley. He delivers it mostly in quart bottles. I sell it to him for five cents a quart

and he sells it for six and one-fourth cents a quart. In this way I get a little more than I would if I sold cream or butter.

No, I haven't my heifer calf. I sold it to papa the first of November. I got \$150 for it at three months old. I wish now I hadn't sold it as everybody says I should have kept it, but this way I have my cow paid for and perhaps next time I can keep the calf.

Well, I can't talk to you like I can to the banker. I try to talk with the banker as much as I can when I am in the bank. He thinks I have done very well in paying for her so soon.

I am trapping what little time I have. I have a trap set under the barn now. I have caught three so far—one under the barn and the others in the chicken house, but we have put up a new hen house now so they don't bother so much. The money I received for the hides I used in helping to pay for my cow.

Yes, I am trying to go to school this term but it keeps a fellow pretty busy to do everything.—LESTER KINCAID, Logan County.

Another Good Record

Received your last letter and in reply will say that I would like to send milk to Manhattan to have it tested for quality but my cow is dry now. She will be fresh April 16. Will I have another chance later to send milk to Manhattan?

In nine months my cow gave 11,158.9 pounds of milk. I have paid \$148.34 on her. Was glad to read in KANSAS FARMER that so many of the Dairy Club members have paid for their cows.

Hope there will be some more boys and girls this year who can get cows to join the club. Wishing all the Dairy Club members success.—ELISE REGIER, Butler County.

Those whose cows were dry April 3 will have another opportunity to send a sample to Manhattan to be tested for quality.

Had to Sell His Cow

Enclosed please find feed records for February and the first few days in March. I sold my cow to the butcher for \$69. She weighed 1,150 pounds. I sold her because she was not going to have a calf.—KENNETH E. RECTOR, Scott County.

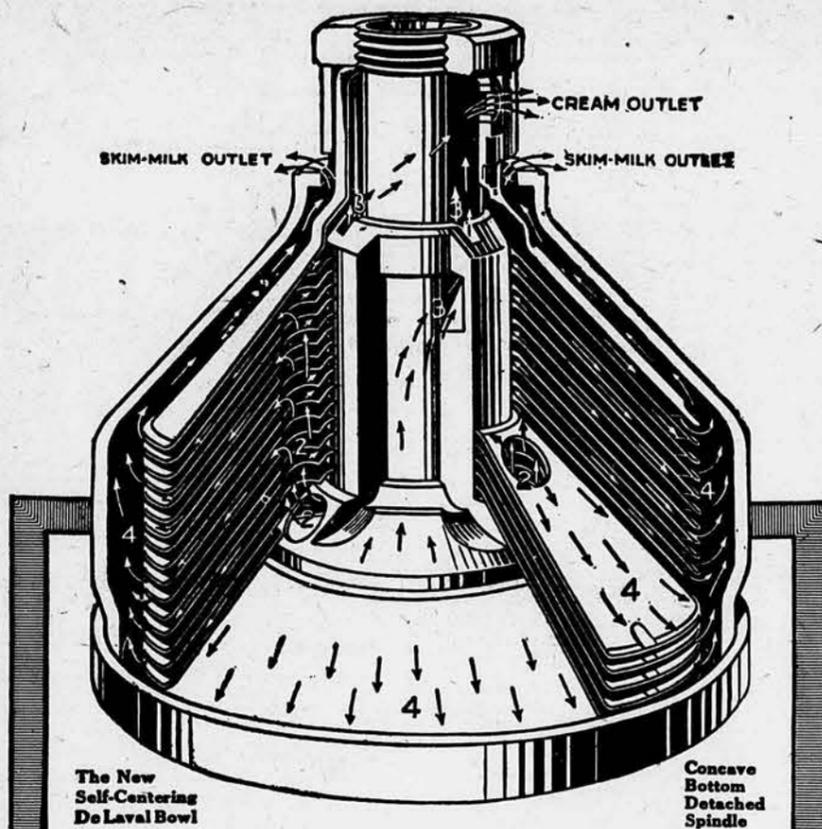
While we regret Kenneth's misfortune, we feel sure he is not sorry that he joined the Dairy Club. He sold his cow for \$9 more than he paid for her, and in addition to this had shown a nice little profit every month over and above the cost of feed given her.

His Banker Interested

My cow is a grade Holstein, but she is red because she has some Shorthorn blood.

Being unable to get bran for a few days I have been feeding corn chop only and my cow has dropped off in her milk.

I have paid \$88 on my cow since May 11, 1916, by selling milk to people in town. When I had my cow on pasture



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LUCILLE AND CLARENCE RADOLIFFE, OSAGE COUNTY, AND THEIR GRADE HOLSTEIN COWS.—THESE ARE THE FIRST TWO MEMBERS IN THE 1917 KANSAS FARMER DAIRY CLUB.—THEIR RECORDS BEGAN APRIL 1

Do Not Put Up With Power That Will "Pass"—You Want It To "Pull"

Wasteful extravagance goes hand in hand with inefficient farm power apparatus. Soil scratched with light plowing that reduces production, crops lost with poor threshing that wastes the yield, soon eat up the saving made in the purchase of a cheap and light farm engine. The farm engine should be a good one, capable of doing work that will bring returns in proportion to its cost. No better engines can be found than those that bear the Nichols & Shepard name as members of the

Red River Special Line

In steam tractors there are five sizes and fifteen variants, 13-40 to 25-85 h. p., burning any kind of fuel, wood, coal or straw. In Oil-Gas Tractors two sizes are built, 25-50 to 35-70 h. p., developing full power on kerosene—nothing that a farm engine can do is too much for either kind.

Your own neighbor probably owns a steam or a gas engine of our make. Let him tell you what it can do, and then you might write for a little farm paper that will give you the opinion of others that you know at home. A catalog that is worth reading carefully will be sent you with the paper. A postal request to the nearest branch house will bring you both.

Nichols & Shepard Co.
In Continuous Business Since 1848
Builds Exclusively of Red River Special Tractors, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors
Battle Creek Michigan

she gave fifty pounds a day and I milked three times a day.
As I did not have any calf, I raised a pig and applied it on the note.
My cow milks very easily and is gentle. She weighs about 1,200 pounds.
The banker has been very much interested in the club work and has helped me with my cow. He is also my Sunday School teacher.—WILLIAM W. CLAWSON, Neosho County.

Another Cow Paid For

It has been nearly twelve months since my cow freshened and she is still doing pretty well.
I paid for my cow in eight months—\$152—and this includes interest and insurance. I traded her calf for feed.
My year will be up May 1, 1917.
I read KANSAS FARMER every week and think it very interesting.—FERMER HIDDLESTON, Johnson County.

Bad Luck But Not Discouraged

I am glad to say I have paid all but \$27 on my cow. Her left front quarter is spoiled but she has done pretty well anyway.
She is about dry now and I expect to see her go dry almost any time this month. She gives from four to six pounds of milk a day. I feed her two pounds of corn chop and two pounds of bran a day, besides about ten pounds of alfalfa and a pound of cottonseed meal.—GUS AARON, Leavenworth County.

Has Balance in Bank

I received a letter from the Bank of Topeka March 7 saying that my last check paid my note in full, interest and all, and left me a balance of \$3.85.
Well, Bonnie Bell did not do so bad by paying for herself and feed in ten months. Feed was so high, but they must eat. This shows that the good cows are the only cows for dairymen.—GLEN ROMIG, Shawnee County.

If you have passed the half-way point or are nearing the end of your year's record in the Dairy Club, don't let your interest lag, for every month's record will be passed upon before making the grade, and every pound of butter fat will be counted.

Give your cow the very best treatment possible clear through the year and coax her to give you every pound of butter fat she can, for it may be these few extra pounds that will give you the place next higher than you would otherwise have had.

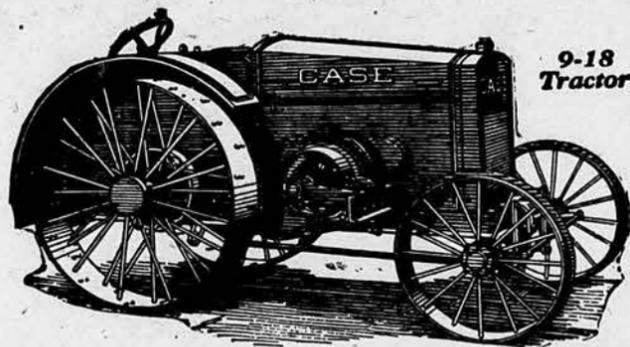
Weigh your feed and your milk just as carefully as you did at first and keep up your records regularly—every time you feed and every time you milk. This is the only way you can do your best, and it is the boy or girl who does his or her best always, who is successful.

Planning Dairy Show

Already the plans are being formed for making the Southwestern Dairy Show for 1917 an even greater and better exhibition than the one held in 1916. The date has not been definitely announced, but it will be some time in September. Some of the most prominent men in the dairy industry are on its executive board. An all-day meeting of the board will be held soon. W. E. Skinner of Chicago, manager of the National Dairy Show and member of the National Dairy Council, will be present. The Southwestern Jersey Cattle Breeders' Association is strongly back of the Kansas City show. Its directors recently held a meeting on the dairy farm of J. E. Jones in Jackson County, Missouri, and following this meeting the plans for the coming dairy show constituted the principal topic for discussion.

If the Southwestern Dairy Show is as successful this year as it was a year ago, it puts Kansas City in line for the National Dairy Show in 1918. The southwestern territory is developing rapidly in dairying and it would be a big boost for the industry to have the national show held in Kansas City in 1918. All the dairy interests should unite to bring about the locating of this next show at the home of the Southwestern Dairy Show.

If the cows are doing well in milk production and the feed is low or entirely gone, don't make them "rough" it until grass comes. They will pay for some feed and their milk flow will be saved. It is easier to keep up the milk flow than to build it up after it has once decreased.



A Pair that Wins CASE

9-18 Tractor
20x28 Thresher

The yearly sales of Case threshing outfits exceed those of the next three concerns combined. In this day of keen competition, this overwhelming popularity is the best proof of Case merits.

Case has held top place for many years. For 75 years they have set the pace—a pace that other concerns have tried in vain to maintain. Today our Case Tractors and Threshers, simple, powerful, efficient, economical, can't be beat. They are known by the work they do.

If you are figuring on buying an outfit—buy Case. Better be safe than sorry. If you have a Case outfit you'll be money ahead. A size Thresher and a size Tractor suitable for every farm.



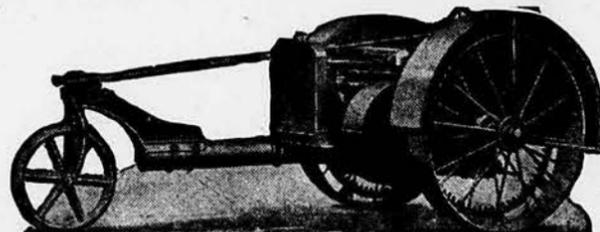
Write today for the 1917 Case album. Describes Case Kerosene and Gas Tractors, Case Steam Engines, Case Threshing Machines, and every Case product. No farmer should be without one. Write today for your copy. It is free.

J. I. Case Threshing Machine Company, Inc.
408 Erie Street, RACINE, WIS.
Founded 1842



20x28 Thresher

LA CROSSE Happy Farmer Tractor



Any Farmer Can Afford One

Low in first cost—low in upkeep. Highest quality construction on simple, common sense lines. Only 7/8 the parts used in other tractors. Model "A", 8-16 H. P. Light Weight Tractor pulls 2 or 3 plows according to soil conditions. Burns gasoline or kerosene. Made a great 1916 record. Write for Catalog

Model "B" our wonderful kerosene burner. The highest development in a light, all-purpose farm tractor and only \$735.00, f.o.b. factory, La Crosse, Wis. Guaranteed drawbar pull 2000 pounds, or three 14-inch plows. Hyatt Roller Bearings throughout. Handles any belt work. Weights only 3700 pounds. We have a distributor near you for prompt service. Write for Catalog.

LA CROSSE TRACTOR COMPANY
Dept. 6
Minneapolis, Minn.
Also ask about La Crosse Tractor-drawn Implements.
Live Dealer Agents Wanted

MODEL A
8-16 Horse Power
\$585.00

MODEL B
12-24 Horse Power
\$735.00

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LEARN THE TIRE REPAIR BUSINESS

MAKE \$2,500.00 yearly and up. The demand for experienced tire men is enormous. If you understand it, your opportunities are unlimited. Our course is practical from start to finish. Under supervision of experienced men who have spent a life time in the business.

The only exclusive tire repair school in the West. You cannot learn from books, you must have actual experience. Write me today.
H. A. YOUNG, Pres.,
Southwest Tire Repair School
(Operated by Southwestern Rubber Co.)
1406 N. McGee St., Kansas City, Mo.

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GET THE FACTS. Send for new FREE catalog today.
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Don't throw them away. Save them and ship to us. We'll pay you HIGHEST MARKET PRICE. Get your neighbor to ship his bags with yours. Established 1870.
FULTON BAG & COTTON MILLS
590 S. Seventh St. St. Louis, Mo.

SUPERIOR CHURN.

Barrel made from strong glazed stoneware. It cannot swell, or shrink, so it never leaks. Can be wheeled out of way when not in use.
Send for Catalog No. 22 S
RILEY HAUK VOGELSANG SUPPLY CO.
THIRD & VINE STS. ST. LOUIS, MO.

SHARPLES Famous Suction-Feed Separator

THE SHARPLES SEPARATOR CO. West Chester Pa.

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RESIDENCES

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ROADS

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DEWEY PORTLAND CEMENT

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No matter what improvements you have in mind, Dewey Portland Cement will make them permanent investments. You get quality in every sack—lasting satisfaction in every job.

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BECAUSE—

Dewey Dealers are Leading Dealers. They'll advise you right. The Dewey Sign indicates a desire for your good will as well as your patronage.

AT LEADING DEALERS.

CONCRETE PERMANENCE

A Thoroughly Well-built Car at \$845



A Few Elcar Specifications

Wheel Base—As long as some cars selling up to \$2,000 and more—115 in.

Motor—4 cylinder; long-stroke; high speed; 34.7 h. p. at 1,800 r. p. m.

Fuel Supply—Stewart vacuum system.

Ignition—Delco automatic spark advance with manual control.

Starting and Lighting—Dyneto two-unit; double-bulb headlights; Willard storage battery.

Clutch—Dry multiple disk—seven plates, steel on Raybestos.

Rear Axle—Full-floating with roller bearings at each end of wheel hubs.

Differential—Spiral bevel driving gears, with roller main bearings and ball thrust bearings.

Brakes—Internal and external, two inches wide on 12-inch drum.

There are few cars equally beautiful at any price, and few, if any, equally good at as low a price. We put into the ELCAR the style, class and high-grade workmanship that went into our former models selling up to and above \$2,000. Our organization has had long training in the production of quality cars, and both beauty and quality are inherent in the

Three New Models at \$845

Five-Passenger Touring Car
Four-Passenger Touring-Roadster
Two-Passenger Roadster

Each model is large and roomy—some would say room to spare, but you want a car that will seat its full load comfortably. Fine in appearance, fine driving and remarkably easy riding qualities, power in excess, economical in upkeep and fuel consumption, a car to give you satisfactory service for years to come—a car that we believe to be as high in quality and as nearly mechanically perfect as any car ever offered at anywhere near as low a price.

Our Illustrated Catalog

will show you views of all the ELCAR models and the more important mechanical parts, and is descriptive even to the minute details of construction. We will gladly mail it to you upon request.

5-Passenger
Touring Car
\$845.

Elkhart Carriage & Motor Car Co.
6816 Beardsley Avenue, Elkhart, Indiana



FREE 1 Package of the New Aristocrat Sweet Corn

An extra early variety. Large size ears. Extremely sweet and delightful in taste. Every lover of sweet corn will be glad to start this fine new variety at our expense. If you will distribute 5 advertising points among your friends, we will send you a 10c package FREE. This offer is made to introduce Lincoln Brand Seeds, the new trade name for the well-known Griswold Quality Seeds. Or, enclose 10c for mailing expenses and we will send in addition three 10c packages, one each of the famous John Bear Tomato, New Marvel Pea, Delicious Gold Lined Black-eyes. Four big packages all—and a copy of our new, big 1917 Seed Annual FREE. Address: GRISWOLD SEED AND NURSERY CO., Dept. B-141, Lincoln, Nebraska.

WELLER PRIZE SEED CORN

The best ever offered. The sensation at Ames Corn Show. Produced 139 bu. to acre in 1914. 1st prize again this year. Only 5,000 bu. to sell. Selected from 55,000 bu. Properly dried, carefully tested and guaranteed. Several standard varieties. Get free catalog today. Read about the wonderful corn. Order early. Get best selection for bumper crops.



Hog-Tight Division Fence

ONE of our Marshall County readers wishes to make a hog-tight fence between his land and that of a neighbor. Each has maintained half of this division fence, although he states his neighbor has not maintained much of a fence. On our correspondent's portion of the fence no additional posts will be required in making it hog-tight by putting on woven wire hog fence. The point raised is whether the neighbor should maintain a fence with enough posts to make it possible to put on the woven wire so that it will be hog-tight.

We do not make a practice of trying to settle disputes between neighbors involving legal points. The law prescribes a legal fence. What constitutes a legal barbed wire fence in law does not have the posts as close together as they should be to make a satisfactory hog fence. The law permits one to put hog wire on that part of a partition fence maintained by a neighbor, but makes no requirement that he join in any portion of the expense of making the fence hog-tight other than the requirement that covers what is called a legal fence.

It is our advice that neighbors try to settle such points as are raised in this inquiry by going over the ground carefully and trying to figure out the advantages to each from the proposed improvement, each paying in proportion to the benefit he receives. It might be of no advantage whatever to one party to have the fence hog-tight, although it has always been our belief that the ideal condition on every farm is to have all the fields fenced so that hogs can be turned in at any time desired.

If it is necessary to consult a lawyer in a matter of this kind, go to one who would rather help settle a dispute out of court than through a lawsuit. There are lawyers of this kind and they will nearly always be able to clear up the points of law involved and settle the dispute in a manner that will leave the neighbors good friends.

Sub-Irrigation

C. T. W., Gove County, asks about sub-irrigation, referring to some articles on this subject which appeared in KANSAS FARMER several years ago. He wants to try this system this year. There may also be others interested in sub-irrigation, and we give below full information on this subject supplied by H. B. Walker, drainage and irrigation engineer at the agricultural college:

"As a general proposition, it has been my policy to discourage sub-irrigation. I do not mean by this that sub-irrigation is not sometimes successful, since there are a number of instances all over the States where farmers have secured excellent results by this method of water distribution. As a general proposition, however, I think that it is undoubtedly true that money spent for a sub-irrigation system would be a much better investment if placed in the construction of a storage tank for water, to be used by the usual methods of surface distribution.

"A large number of different systems of pipe lines have been used in sub-irrigation. Some of these have been patented devices, while others have been pipe lines made of galvanized iron with open seams, or pipe lines made with cypress lath, or just ordinary three-inch farm drain tile. So far as the conducting material is concerned, it matters little of what it is made so long as it will permit the water to flow along the pipe line, and they must have open joints at intervals to permit the water to escape into the adjacent soil. Probably the cheapest material for pipe lines is the ordinary building lath. However, this material is not of a permanent construction, and perhaps the second cheapest and most desirable material is the farm drain tile. Three-inch drain tile will cost from one and one-half to two and one-half cents per foot, depending upon the quantity which is purchased.

"These pipe lines must be carefully placed in the ground if satisfactory results are obtained. It is evident that sub-irrigation will be most successful in a field where the surface soil is open and porous, and where the sub-soil is relatively compact and impervious to

water. Under such conditions the water will spread laterally from the pipe lines to a great distance, and there will be little loss of water by seepage into the subsoil. On the other hand, it is evident that a soil which is underlaid with a gravelly or open subsoil will not be very well adapted to sub-irrigation since under these conditions the loss by seepage down into the subsoil will be so rapid and excessive in comparison with the spreading of the water laterally from the pipe lines. It must be recognized that the soil condition is an important factor in the success of a sub-irrigation system. Where unfavorable soil conditions exist this method of water distribution should be discouraged, and if it is used it will be found that the losses of water will be as great if not greater than if the usual surface methods of distribution had been used.

"The spacing of the pipe lines must be close enough to permit the water to seep entirely across the spaces with a fair degree of uniformity.

"It has been found that under the usual Kansas conditions a spacing of the pipe lines of from four and one-half to six feet is essential for the most satisfactory results. These pipe lines are ordinarily placed at depths varying eight to fourteen inches. The grades of the pipe lines should be relatively flat and should not exceed one and one-half inches in a hundred feet. Under some conditions very good results have been obtained by placing the pipe lines shallower or deeper than the depths indicated above, but it is believed that under ordinary conditions the depths given will prove more satisfactory if the soil is naturally adapted to this method of water distribution.

"If we assume that a farmer proposes to sub-irrigate one acre of land, and further assuming that the soil requires a spacing of pipe lines six feet apart, it will require 7,000 feet of pipe line to sub-irrigate an acre. If farm drain tile are used, the cost of the material alone if purchased at a local lumber yard will be in the neighborhood of \$150 to \$175. In addition to this the laying of the pipe line will cost another \$100, thereby making a total cost of a sub-irrigation system for one acre approximately \$250. I am confident that one-half of this amount of money invested in a good concrete reservoir in connection with a farm windmill pumping plant will prove a much more satisfactory investment for the average farmer. Under any circumstances no farmer should construct a large sub-irrigation system until he has first experimented with his soil to find out the proper depth and spacing of his pipe lines to get the most satisfactory results."

Bankers Buy Calves

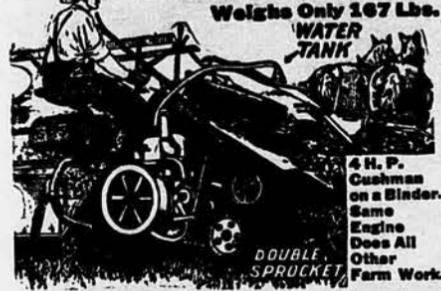
We have just received a letter from C. G. Elling, district agricultural agent in Southeast Kansas, telling of the purchase of fifty head of Holstein and Guernsey heifer calves in Wisconsin. Mr. Elling and J. W. Marley, of the Oswego State Bank, made the trip to Wisconsin to buy these calves, acting for the two banks of Oswego.

The bankers of Labette County are financing a movement to improve the dairy stock of that county. These calves which have just been purchased are to be placed in the hands of boys and girls who will give notes at six per cent in payment for them. Other shipments will be made to different communities in the county, in each case the banks furnishing the money to buy the calves and paying the expense of shipment. Mr. Elling states that the plan is to put the calves up and sell them at the end of the year, appropriate prizes to be awarded to the boys and girls making the best records.

It is generally being recognized that more and better live stock is needed on the farms in this section of the state. Bringing in these calves will be a distinct advantage to the county in that it will probably result in there being more dairying in the near future.

Anything that will make the housewife's work easier should be considered necessary.

Saves 2 Horses On the Binder



Cushman Binder Engine

For All Farm Work

The 4 H. P. Cushman is the original and successful Binder Engine. Thousands are in use every harvest—saving horseflesh and saving grain.

It saves a team, because engine operates sickle and all machinery of binder, leaving horses nothing to do but pull binder out of gear; also takes away side draft. Therefore, two horses easily handle 8-foot binder in heavy grain.

It saves the grain, because it runs at uniform, steady speed, putting grain on platform evenly, allowing platform and elevator canvas to deliver it to packers straight, and thus it is tied without loss, saving a large per cent of the natural waste of binder.

It saves the crop in a wet season, because slipping of bull wheel or slowing up of team does not stop the sickle, and it never clogs. You can cut wet grain same as dry.

It saves time because you can move right along all the time in heavy grain without killing the horses, and with no choking of sickle, elevators or packers.

It saves the binder, because it operates at same regular speed all the time—no jerking of machinery by quick stopping and starting of team or when bull wheel drops into a rut. That's what tears a binder to pieces. With a Cushman Engine your binder will last twice as long. Write for book with complete description.

CUSHMAN MOTOR WORKS, 822 N. 21st St. Lincoln, Neb.

Stack Your Hay The Easiest Way—The Jayhawk



F. WYATT MFG. CO. 810 N. 5th St. Salina, Kans.

SELF-OILING WINDMILL

With INCLOSED MOTOR Keeping OUT DUST and RAIN—Keeping IN OIL



DOUBLE GEARS—Each Carrying Half the Load Every feature desirable in a windmill in the AUTO-OILED AERMOTOR

Gasoline Engines—Pumps—Tanks Water Supply Goods—Steel Frame Sails

Write AERMOTOR CO. 2500 12th St. Chicago

SILOS AMERICAN HOLLOW TILES

Size	Tons	Less Hooks and Doors	Complete
10x35	68	\$140	\$184
12x35	90	150	197
14x35	115	169	223
16x35	149	189	249

Thousands in use. None better. Fully warranted. Agents wanted.

AMERICAN SILO SUPPLY CO. 210 Traders Bldg. Kansas City, Mo.

\$15.00 Sweep Feed Grinder \$19.00 Galvanized Steel Wind Mill

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO., Seventh St., Topeka, Kansas

\$45 SADDLE for \$36 Cash

Fourteen-inch swell front, 27-inch wool-lined skirt, 8-inch stirrup leather, guaranteed, solid steel fork.

FRED MUELLER 1413 Larimer St., Denver, Colo.

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Ride in a Bush Car. Pay for it out of your commissions on sales, my agents are making money. Shipments are prompt. Bush Cars guaranteed or money back. Write at once for my 48-page catalog and all particulars. Address: H. Bush, Free Dept. 4-P, 114 In Wheeling, Deico Ignition—Elect. Btz. & Ltg. BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

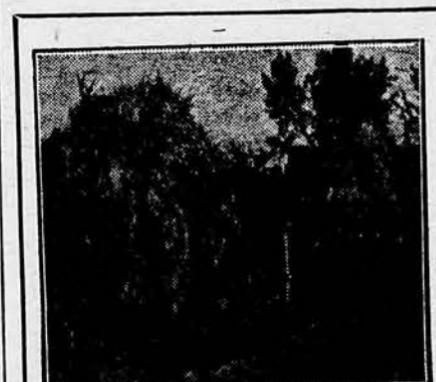
Sudan Proves Worth

(Continued from Page Four)

caused the death of cattle many times. Only three fatalities arising from the use of Sudan grass as a pasture have been reported, and it, therefore, would seem to be fairly safe. Care should be used when cattle are first turned into Sudan grass pasture, as the poison acts very quickly when it is present in any quantity.

Sudan grass is essentially a summer pasture and it will support a larger number of cattle or hogs during the hot weather of summer than any other grass unless it is Bermuda. At Dodge City, Kansas, the substation carried out a pasture test with milk cows. Three acres kept an average of twenty cows in good condition for thirty-two days during the drouth. In a more exact manner it may be put this way, with an actual rainfall of 4.6 inches three acres of Sudan grass furnished pasture equal to 375 days' grazing for one animal. The cows when changed from native prairie pastures to Sudan grass showed a gain of 3.2 pounds of milk per day.

A less exact test than that at Dodge City was conducted at the Chillicothe, Texas, field station in 1915. Three strips



SUDAN SEEDED IN NORTHWEST KANSAS JUNE 20 AND CUT SEPTEMBER 20.—AXE HANDLE IN FOREGROUND SHOW HEIGHT

of ground of equal width were planted to Amber sorgo, German millet, and Sudan grass, respectively. When the crops had all reached a height of eight to ten inches a gate directly opposite the strip of millet was opened and the live stock, consisting of four mules, one horse, and one cow, were allowed free access to the field. From the first day they all showed a preference for the Sudan grass and kept it grazed closely to the ground all summer, while the millet grew up, headed out, and was cut for hay. The sorghum was eaten very sparingly until after it headed out, after which the animals seemed to like it better.

The Arizona Experiment Station found under dry-farm conditions near Prescott, Arizona, that Sudan grass would maintain twenty sheep per acre continuously for a hundred days. Compared with Amber sorgo, it was noted that sheep pastured on Sudan grass fattened while those on the sorgo made only ordinary growth. The report goes on to state that the grass is a better summer pasture crop than alfalfa and that it prevents bloat to a large extent when seeded in mixture with alfalfa.

A farmer in Southwestern Kansas kept a hundred head of shoats growing rapidly on a half grain ration, by allowing them to pasture on three acres of Sudan grass during the summer.

B. L. Morris, of Lubbock, Texas, pastured thirty-two hogs and an equal number of pigs and two milk cows on five acres of Sudan grass from May 1 until fall in 1915, and the grass grew so rapidly he was compelled to turn in eight head of cattle every few days to eat it down. He claims that in four days after placing his milk cows on the Sudan grass they nearly doubled their output of milk. He expected to pasture 250 hogs on twenty acres of Sudan grass in 1916.

These experiences of farmers and the results obtained at experiment stations indicate that Sudan grass can be utilized very effectively as a pasture for hogs, sheep, cattle, and horses. Care and judgment in pasturing will do much to prevent injuries from poisoning. Sudan grass which has been injured by a drouth, or has been subjected to any other sudden stoppage of growth, such as a hard freeze, should not be pastured except with hogs. A normal continuous growth will usually be safe for any kind of animal.



Oscar Saenger

The Victor Company announces a complete course in vocal training by Oscar Saenger in twenty lessons on ten Victor Records \$25

Soprano; Mezzo-Soprano; Tenor; Baritone; or Bass

Every student of vocal music, every aspiring young singer, every one who has a voice, even though it be untrained, can now develop his or her talents under the direction of Oscar Saenger—America's greatest and most successful vocal teacher.

The Oscar Saenger Course in Vocal Training is a practical efficient system for teaching people to sing. No matter where they may live, all those who wish to sing may now learn to do so under the direction of a master, who is credited with having entered more pupils upon successful operatic, oratorio or concert careers than has any other teacher in the United States.

The course consists of ten double-faced Victor Records, which provide twenty lessons in vocalization. There is a separate set of records for each of the following five voices: Soprano, Mezzo-Soprano, Tenor, Baritone, and Bass.

For each set of lessons, perfect examples of tone production have been secured through Oscar Saenger's personal choice of the artists best qualified to serve as exemplars.

The Oscar Saenger Course in Vocal Training for any of the voices mentioned above, may be procured from any Victor dealer at \$25—the cost of a one-hour lesson at the Saenger Studio in New York.

Write for an illustrated booklet giving full information about the series of Victor Records of the Oscar Saenger Course in vocalization. We will gladly send a copy upon receipt of your request.

Victor Talking Machine Co., Camden, N. J.

Important Notice. All Victor Talking Machines are patented and are only licensed, and with right of use with Victor Records only. All Victor Records are patented and are only licensed, and with right of use on Victor Talking Machines only. Victor Records and Victor Machines are scientifically coordinated and synchronized by our special processes of manufacture; and their use, except with each other, is not only unauthorized, but damaging and unsatisfactory.



Victrola

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HIS MASTERS VOICE
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Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed \$.....for which send me

KANSAS FARMER.....year.....
One year for \$1.00; two years for \$1.50; three years for \$2.00.

Name

Post Office

State..... R. F. D. No.....

Are you already taking KANSAS FARMER?

Canada Offers 160 Acres Land Free to Farm Hands

Bonus of Western Canada Land to Men Who Assist in Maintaining Needed Grain Production.

The demand for farm labor in Canada is so great that as an inducement to secure at once the necessary help required, Canada will give one hundred and sixty acres of land free as a homestead and allow the farm laborer who files on land to apply the time he is working for other farmers as residence duties the same as if he had lived on the land he had applied for. This offer made only to men working on Canadian farms for at least six months during 1917, thus reducing the necessity of actual residence to two years instead of three years, as under usual conditions. This appeal for farm help is in no way connected with enlistment for military service but solely to secure farm laborers to increase agricultural output. A wonderful opportunity to earn good wages while securing a farm. Canadian Government will pay all fare over one cent per mile from St. Paul and Duluth to Canadian destination. Information as to low railway rates, etc., may be had on application to

GEO. A. COOK
Canadian Government Agent
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Or, you can buy the complete machine of us. Save big money either way. Prices \$11.50 up. We furnish free plans along with our concrete mixers so you can build your own mixer at small cost. Sheldon Batch Mixers save their cost on a single job. Ideal for farm use. Made by a farmer for farmers. Mix 2 1/2 cubic feet a minute. Keeps 1 to 2 men busy. Do work equal to \$400 mixers. Get Free Catalog and Special Offer. Shows our full line of mixers which are direct to you on strong guarantee. 30 days trial. You may want in every county right now to secure your special order which will help you secure a machine at little or no cost. Big chance to make \$10 to \$20 a day constructing in your section. Write today. **SHELDON MFG. CO.** Box 3250 Nehawka, Neb. **Mix Your Own Concrete**

1917 PLANTING GUIDE AND PURE SEEDBOOK

Ask now! This beautiful 96-page four-color book describes 1917 varieties of vegetables and flowers; handsomely illustrated; beautiful flower grounds, lawns, vegetable gardens, landscaping, shrubbery, orchards, farms. A dictionary on gardening. Power for the delirious. Every grower's book! An orchard-let's manual! Most wonderful gardening guide catalogue ever published. Get our famous 1917 book. Don't miss it. Ask today. A postal gets it. **Railway Bros. & Co., D218 Waterloo, Ia.**

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10th & Oak Sts., KANSAS CITY, MO. 51st Y.B.R. Over 28,000 former Students. Our modern Building has 15 elegant Rooms, including FREE GYMNASIUM and Auditorium, 22 experienced Teachers and Lecturers. Day and Night Schools all Year. Free Employment Bureau. Shorthand, Typewriting, Book-keeping and English Branches. Catalogue "K" Free. **J. F. Spalding, A. M., Pres.**



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

"Just to be out of doors! So still, so green! With unbreathed air, illimitable, clean. With soft, sweet scent of happy growing things, The leaves' soft flutter, sound of sudden wings. The far faint hills, waters wide between. Breast of the great Earth-Mother! Here we lean With no conventions hard to intervene. Content with the contentment Nature brings— Just to be out of doors!"

In these days of anxiety over the international turmoil and unrest, the value of the simple blessings which are the object of the above lines, is enhanced. Nature alone seems unmoved and restful.

Much Food Is Wasted

This waste is brought about in two ways—first, by preparing more food for the meal than is eaten, and second, by eating more food than is needed for physical and mental efficiency. The first named waste is more prevalent in farm homes, we believe, than in city homes, due to the hospitality of farmers generally and the greater supply stocks in their cellars and smokehouses. Many of us can recall dinner tables loaded to their utmost capacity with good things intended to be eaten at one "sitting" and which would easily have provided several abundant meals for the same number of people. If the guests did what was expected of them they felt much the worse for it, and if they could not do this well, much of the food was necessarily wasted.

A study of foods and their energy-giving properties would make it possible to eliminate this waste and still feed the family well. This study is an important part of the domestic science courses offered and for this reason alone, if for no other, the college training for housekeeping is well worth while—indeed essential. Those who have not had this training have within their reach many helpful bulletins on the subjects taught in these courses. A study of these bulletins will result in making it possible to simplify the work of housekeeping and yet do it more efficiently. A postal card addressed to the Division of Publications, Federal Department of Agriculture, Washington, D. C., asking for a list of the bulletins of interest to housewives, will bring the names of many free bulletins worthy of study. One of the latest of these bulletins and one which has before been mentioned in these columns, deals with the selection of food and tells the body's needs.

Another effective way of eliminating waste is by saving the surplus garden and orchard products for winter use. The canning of these products should be more diligently practiced. Most vegetables and fruits can now be put up without risk and none need be without instructions for doing this work properly as the experience of successful canners is free for the asking. The canning work has taken wonderful strides in our own state and this year the number of these clubs will be far greater than in any previous year. This question of food and its cost is one that is ever with us, and it will be solved only through individual thought and care in its production and use.

Value of Salads

We often hear salads spoken of lightly, especially by men, and yet they supply the body with properties very necessary for doing its work properly. Without salads—fruits and vegetables—meals are likely to lack certain mineral substances which are used by the body for building material and are found in all its parts. Therefore, the body should be supplied some of this building material each day else its work will be impaired. It will not be long now until it will be an easy matter to supply salads, as the early garden will soon be ready for use. One very simple and very good salad is fresh, tender lettuce leaves cut fine and seasoned with French dressing.

This dressing, the basis of which is olive oil, is also very healthful. It is made of three tablespoonfuls of good olive oil, one tablespoonful of vinegar, one level teaspoonful salt, a pinch of paprika, and a pinch of mustard if desired. This mixture should be beaten thoroughly before being put over the lettuce. It may be added to the lettuce at the table according to the taste of the individual.

Cold cooked spinach or greens served with this dressing will also make a very appetizing salad.

House-Cleaning Helps

In house cleaning, as in any other work, system will aid greatly in accomplishing results.

The part of the house used as a storage—cellar, attic, or unused room—should be cleaned first so that the surplus articles to be stored may be cleaned and put away, leaving that much less to handle in the cleaning. Pantries and closets should also be cleaned before the rooms to which they belong. The best way to clean carpets and rugs is to lay them flat in the sunshine and beat with a broad wire beater. When the carpets and rugs have been cleaned they should be rolled and laid away out of the dirt. It is very hard on the threads of carpets to shake or hang over a line.

Any curtains that are not used during the summer should be washed and laid away without starching. Draperies should be thoroughly cleaned before being put away.

The ideal way to clean house—at least the way that causes the least discomfort to the family—is to clean one room at a time. This leaves a retreat in some other part of the house where the family may gather at the close of the day. Nor should the cleaning be begun at daybreak and continued until dark. This is too great a strain on the strength and nerves of the housewife and the other members of the family suffer as well because of it. The work will be accomplished as quickly and far more satisfactorily if done by degrees, allowing for some change of work during the day and a few minutes of rest. If the cleaning of one room is finished toward the close of the afternoon, the work of the following day will not seem so burdensome if the rest of the afternoon is spent out about the chickens, in the garden, or in resting, instead of starting on another room. We know many housekeepers will look upon this as the idea of a shiftless woman, but they would be able to enjoy the newly cleaned house much sooner by following this rule.

The screens should be put in place as soon as the windows are washed on the outside and this should be done before the flies begin to come, as this is an important "Safety First" gauge.

Meat Pie

Cut into small bits cold roast beef or other meat, add to this a pint or more of cold water and let simmer for an hour. Thicken with a tablespoonful of flour. Put a layer of this in pudding dish, then add layer of sliced hard-boiled eggs, and few slices of cold boiled potatoes, adding balance of meat, sliced eggs and potatoes. Season with salt, pepper, and bits of butter. Cover with crust, leaving an opening in center, and bake forty minutes.

CRUST
2 cupfuls flour
1/2 teaspoonful salt
2 teaspoonfuls baking powder
2 tablespoonfuls butter
1 egg
Enough milk to make soft batter
Sift flour, baking powder and salt together. Rub in shortening, then add the egg and the milk.

A paring knife with a good steel blade that can be kept sharp, will be of great help to the housewife in practicing economy. Poor knives are responsible for much waste.



Healthy Vegetables

The U. S. Dept. of Agriculture recommends that you rid your seeds and soil of infection before planting, with the greatest known disinfectant—

FORMALDEHYDE

The Farmer's Friend
It prevents potato scab and black-leg that attacks beets and other vegetables. It guards against onion rot and onion smut and smudge, cucumber root rot. It prevents mould in celery, lettuce, parsnips and other covered seeds when applied to the beds before planting. One pint bottle of our Formaldehyde costs 35 cents. Big scientific book with full directions sent free upon request. **PERTH AMBOY CHEMICAL WORKS** 100 WILLIAM STREET NEW YORK

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Here it is—the one sure, safe, scientific chick feed. The feed that brings 'em through the first two weeks—the critical period. Don't permit roup, dysentery and other diseases to kill off your chicks when for a few cents you can keep them well. You will lose hardly more than 5 or 10 chicks out of every hundred — if — right from the start — you will feed

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140-Egg Size—Hot Water—Double Walled—Self Regulated, with \$4.85 Hot Water 140 Chick Brooder—both \$12.50. Frt. Paid. 30 Days of Rockies. Satisfaction Guaranteed. **\$1000 In Prizes**
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LEPAGE'S CHINA CEMENT

STANDS HOT AND COLD WATER 100



Causes of Chick Diarrhea

NINETY-FIVE per cent of the diarrhea which results in such mortality to little chicks is not due to the white diarrhea germ, but to other causes that may be prevented by careful handling.

A little chick is apt to become chilled, which will cause it to have diarrhea. This chilling may result from indiscreet use of the nursery tray of the incubator. For instance, a correspondent recently wrote to the Missouri College of Agriculture that the nursery tray on his machine was registering 80 degrees, or 23 degrees below the egg tray. If newly hatched chicks were put in a temperature of 80 degrees, they would become chilled and diarrhea probably would follow.

Again, many are careless in transferring chicks from incubator to brooder in a cool room and they fail to warm the container which the chicks are to occupy. The hands should be warm and the cloths with which the chicks are covered should also be warm. After they are placed in the brooder, every precaution should also be taken to keep them warm. The brooder should be kept at a temperature of 95 to 100 degrees the first week and reduced about one degree a day until the right temperature is reached. They should be kept warm enough so that they do not crowd at night and they should always be afforded a cool place to which they may go if they desire. Chicks raised with the hen should not be let out until the grass has become dry, because a wet chick is apt to become chilled.

Another cause of diarrhea is the overheated incubator or brooder which may interfere with the natural absorption of the yolk and cause trouble after the chicks are about a week old.

Then, too, diarrhea may be caused by feeding chicks musty or sour food. Corn meal which has become heated in the sack or bin and which has a musty odor should never be used for chick feeding.

Diarrhea may also be caused by allowing the chicks to scratch in musty chaff. If this occurs, spores will become imbedded in the lungs of the chick and a white diarrhea with a high mortality will result.

In some cases, diarrhea may be caused by the white diarrhea germ, which is said to be present in the ovary of the mother hen and, if this is the case, extreme sanitary precautions should be observed. Care should be taken to use only the most vigorous breeding stock available. The incubator should be cleaned and disinfected between every hatch and the brooder should be disinfected every time a chick dies. The incubator door should be darkened at hatching so that healthy chicks will not pick up the droppings of diseased chicks. The drinking water should be colored a claret red by the use of potassium permanganate and the chicks should be fed sour skim milk as soon as they begin to drink.

Keep Hens Busy

A laying hen is always a working hen. The best layers are always active, and if their feed is given to them so that they can eat it without exercise, they will get exercise in some way and pull each other's feathers, get frightened and fly across the pen at every little noise, or try to fly out.

Feed should be given so that the hens will have to work five to eight hours every day to get their fill. Grain may be scattered thinly in a deep litter. It may be fed unthreshed, compelling the hens to scratch it off. Heads of kafir or milo may be hung up, so that the hens will have to work hard to pick it off. Roots and cabbage may be treated the same way. Give ample feed and see that every hen has plenty, but see that she works hard for it.

Selecting the Good Layers

The poultrymen of the Missouri Experiment Station have a very simple method of picking out good layers. The feet of the hen tell the story. It looks almost too simple to be true, but it is founded upon fact, nevertheless. The egg record of every hen at the station

is carefully kept, and when the hen dies or is killed her feet and shanks are preserved for reference. It has been found that the length of the toenails is in direct proportion to the egg record. The long nails belong to the poor layers and the short nails to the best layers.

The reason for this is plain. The laying hen is always busy, and scratching wears away the nails and keeps them short. The poor layer is lazy and does but little scratching, consequently her toenails grow long. The poorest layer among the exhibits laid about forty eggs during her whole life, while the best one laid 214 eggs in one year. The nails on the toes of the former are almost an inch long while those of the heavy layer are worn almost entirely away. The records of others correspond proportionately. Therefore, for all practical purposes it may be said that the longer the toenails the poorer the layer, and the shorter the nails the better the layer.

Kafir for Chickens

Kafir and milo are splendidly adapted, both in size and composition, for feeding to all classes of poultry. In many parts of the country, far outside of the grain-sorghum belt, small patches of kafir, durra, or other "chicken corn" are commonly grown on the farm, simply to furnish chicken feed. There were in 1908 more than a hundred firms engaged in the manufacture of over two hundred brands of poultry feed. Figures furnished by thirty-three of these firms show an annual output at that time of about 30,000 tons of these products. Approximately 10,000 tons, or one-third of this total, consisted of the seed of blackhull kafir. This was mostly used in mixture with other grains, such as corn, wheat, screenings, etc.

It is probably a conservative estimate that kafir or milo seed forms fully 25 per cent of the prepared poultry food sold in this country. So strong is the demand for these grains by the manufacturers of poultry food that similar varieties have been imported from as far away as India when the crop in this country was short. Considerable quantities were so imported in the winter of 1909-10, following the short crop of 1909.—Farmers' Bulletin No. 448.

Don't Mix Breeds

Keep one breed. Select a breed that you like and one adapted to your purpose. Then get a business strain of this breed and do not keep a single bird a week after it ceases to be profitable.

There has been an endless mixing of breeds on many farms. Every year or two cockerels of a different breed are purchased and introduced into the already mixed flocks. Each breed needs somewhat different care and feeding and in the general mixture few, if any, of the fowls can be given just the treatment that will secure the most profit. Neither the farmer, his wife, nor his children can feel the pride in the speckled, streaked, spotted, odd sized, mixed colored flock that they would in a choice, uniformly marked flock of one breed, and the mixed flock will receive care that further reduces the profits.

Free range is the ideal condition for the production of eggs that will hatch chicks which are full of vitality. Most of the baby chicks produced from eggs laid by hens under free range conditions are free from common chick troubles.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 463 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

Save Your Chicks—Free

Send two names to the Wight Co., 18 Main, Lamoni, Iowa, and they will send you enough Iowite Remedy, absolutely free, to save forty chicks from White Diarrhea.—[Adv.]



Save Your Chicks

That's your greatest problem. Little chicks die by thousands from indigestion, diarrhoea, gapes, leg weakness, etc. They need help—three-fourths of the loss can be avoided. Begin with the bowels—make the digestion right by using

Dr. Hess Poultry PAN-A-CE-A

Cures Gapes, Indigestion, Leg Weakness, etc.

Here are a few of the valuable ingredients in Pan-a-ce-a to meet the requirements of your poultry which I have just stated: Nux Vomica, a nerve tonic; Carbonate of Lime, a shell former; Hyposulphite of Soda, an internal antiseptic; Quassa, an appetizer; Iron, to enrich the blood, and other valuable ingredients, all well known and recommended by the highest medical and veterinary authorities.

My Guarantee

Be sure am I that Dr. Hess Poultry Pan-a-ce-a will prevent and cure gapes, indigestion, leg weakness and the like, reduce your loss to mere nothing and help your chicks grow and mature rapidly, that I have told my dealer in your town to supply you with enough for your flock, and if it doesn't do as I say, return empty packages and get your money back.

Write for free book on Poultry Culture.

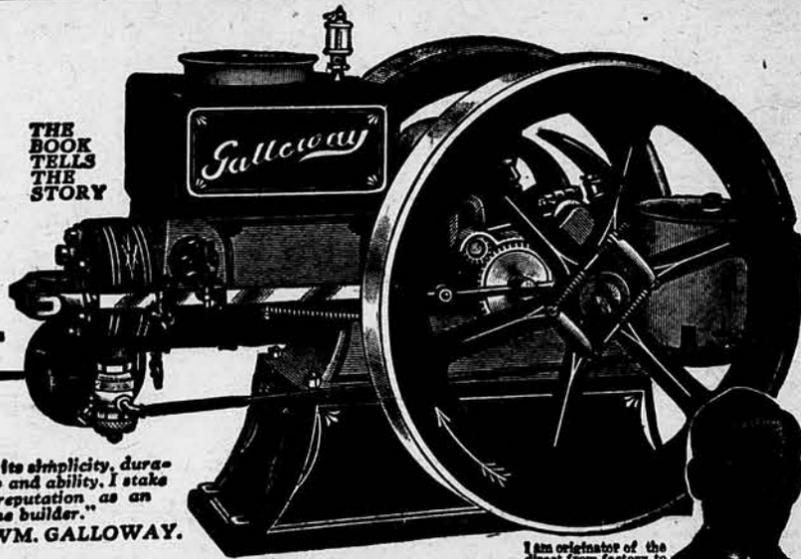
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Dr. Hess Instant Lice Killer
Kills lice on poultry and farm stock. Destroys bugs on cucumber vines, slugs on roses, etc. Use by dusting or sprinkling. Comes in handy sitting-top cans. 1 lb. 25¢; 5 lbs. 60¢ (except in Canada).

Costs 1 Cent a Day for 30 Fowls

1 1/2 lbs. 25¢
5 lbs. 60¢
12 lbs. \$1.25
25-lb. pail \$2.50
(except in Canada and the far West)



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Wm. Galloway, Pres., Wm. Galloway Co., 215 Galloway St., Waterloo, Iowa

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FIFTEEN DOLLARS IN GOLD FOR THE best two ears of corn from our Golden Beauty pop corn seed in 1917. A liberal packet of seed and particulars for a dime. Ambrose Seed Co., Urbana, Ohio.

BEAUTIFUL FLOWERS—BIG STOCK, canna, gladiola, woolflower, salvia, tomato, cabbage, pepper, sage, and other flowering and vegetable plants. Seeds and bulbs. Write for descriptive price list. Henry S. Jefferies, Ottawa, Kansas.

BERMUDA GRASS—HARDY, RANK-growing variety. Stands droughts, floods, hot winds and severe freezing. Best and hardiest pasture grass. Great milk producer. Write for leaflet today telling how to get started. Henry Jefferies, Ottawa, Kansas.

EVERBLOOMING STRAWBERRY plants—Americus, 100 strong healthy plants true to name, only 90 cents; 500, \$4. Have tried Americus, Progressive and Superb. Americus proved the best bearer. Big stock flowering and vegetable plants. Write for descriptive price list. Henry Jefferies, Ottawa, Kansas.

ALFALFA AND KAFIR SEED—RE-cleansed, home-grown, non-irrigated. Alfalfa seed, \$5, \$6, \$7, \$8 and \$9. White Flower sweet clover, hulled, \$12; unhulled, \$7.50. Pure white kafir, \$2; good growing kafir, 1% cane seed, \$1.75 per bushel, our track. Seamless bags, 30c each. Samples on request. The L. C. Adam Mercantile Co., Cedar Vale, Kansas.

FROST-PROOF CABBAGE PLANTS—Offer our thousands of customers in the Southwest same high class plants as in the past. Jersey, Charleston, Wakefield, Succession, Flat Dutch. One hundred, postpaid, 40c; 200, postpaid, 75c; 500, postpaid, \$1.25; 1,000, postpaid, \$1.75; over 5,000, cheaper. You know us. Largest plant shippers in the Southwest. Ozark Seed & Plant Co., Nashville, Ark.

DOGS.

REGISTERED SCOTCH COLLIES AND Fox terriers. Western Home Kennels, St. John, Kansas.

AIRDALE—THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

CATTLE.

HIGH GRADE HOLSTEIN HEIFER calves, \$17 each, crated. Edw. Yohn, Watertown, Wisconsin.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE—A RED POLLED BULL calved November 19, 1914. Will make a show bull. Geo. Haas, Lyons, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express charges all paid, for \$23 apiece. Frank M. Hawes, Whitewater, Wis.

AYRSHIRES—TWO HIGH GRADES, grandsons of third highest producing junior two year old. From extra good dams, \$25 and \$30. Taylor Maid Ayrshire Farm, Troy, Missouri.

HOLSTEIN CALVES—TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, \$18 each, crated for shipment. Also one pure-bred heifer, three months old, \$75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

HOGS.

BIG-TYPE POLAND BOARS. U. A. Gore, Seward, Kansas.

Poultry Profitable Side Line

"FULLY sixty-five per cent of the poultry and eggs produced come from the farms," said F. E. Fox, assistant in poultry at the agricultural college, in opening his talk on the Santa Fe Dairy and Poultry Special, which recently completed a four weeks' tour in Eastern Kansas. Farms devoted exclusively to poultry have a very small part in meeting the growing demand for poultry and eggs. In the Middle West, where the great bulk of poultry is produced, a specialty poultry farm is almost unknown. It is practically an open field for the general farm. Poultry is thus a side line to general farming but it is a most profitable part of the farm business.

It has been estimated that the value of the poultry and eggs produced in Kansas in 1916 was approximately 30 million dollars. This includes eggs and poultry sold and consumed on the farm as well. In spite of the apparent shortage and present strong demand for eggs and poultry, speakers on the train stated that our total production in 1916 was 10 to 15 per cent greater than in 1915. The Wells Fargo Express Company alone shipped sixty-five full carloads out of Kansas during the month of January. In addition to these full carload shipments there were of course many smaller shipments.

These statements serve to direct the attention to the importance of poultry as a source of revenue. Eggs are now going into storage at unheard of prices and this in itself is evidence enough that we need not look for cheap eggs next season. The point of the whole matter is that there never has been a time when special efforts in growing and handling poultry seemed more sure to receive ample reward than at present. This was the foundation of the talks on better poultry given at over a hundred towns in Eastern Kansas visited by this special train. One of the speakers made the statement that the average Kansas hen lays but sixty eggs a year. This production can be greatly increased by a little thought and effort. High egg production can be bred into a flock just as high milk production can be bred into a dairy herd. There are entirely too many hens maintained on our farms that are not paying for the feed they eat.

In reproducing our flocks we all make the mistake of permitting our least profitable hens to lay the eggs used for hatching. In every flock there are a few hens that lay persistently. They even lay through the winter months if given a half chance. Along toward spring these persistent layers having laid out a clutch, become broody. About this time every hen on the place is getting ready to lay. They have all had a nice rest while consuming high-priced feeds at our expense, and we carefully save their eggs and set them under the very hens that should be reproducing themselves for the laying flock next year. In other words, we are breeding from the "loafers"—the poorest layers in the flock—because it happens that these are the hens laying most of the large, smooth eggs during the hatching season. If we would improve we must breed from the

hens that have the habit of large egg production. To correct this common mistake, the suggestion was made that these hens that lay through the winter should be marked and placed in breeding pens in the spring, mating them with cockerels known to have the same kind of hens as mothers. Of course, these hens that have laid eggs through the winter are likely to become broody, but it will pay to break them up and keep them laying, depending on incubators to do the hatching.

This method of improvement suggested by Mr. Fox is not a fine-spun experiment station theory. It has been worked out successfully on the ordinary farm. We spent a day on this train during the early part of the trip, and heard George Beuoy, who has built up an egg-laying flock on his farm in Chautauqua County, tell the same story. Mr. Beuoy stated he had always been too busy to bother with trap nests, but he kept his eyes open as he went about his work in the barns and sheds, and every time he saw a hen on a nest he caught her and put some sort of mark on her leg—a leg band, a hog ring, or even a piece of binding twine. He soon found that a few of the hens were doing all the winter laying. By following this up for several years and raising chickens from these persistent layers only, he has developed a flock that will lay two or three times as many eggs in a year as will the average Kansas hen.

Another important point in securing eggs during the time of the year when they are highest in price, is to have the chicks hatched early enough. The pullets from late hatched chickens seldom get started to laying the first winter. If they are not sufficiently matured to begin laying in October or November, the chances are they will not lay until spring. The small breeds, of course, can be hatched later than the larger breeds, but there cannot be any heavy winter laying unless a flock of well matured pullets of the proper age go into winter quarters. It has been definitely settled that early hatched, well developed pullets will lay more eggs the first year than they will the second. In fact in some breeds it seldom pays to carry over a one- or two-year-old hen unless it is known to be of the kind that should be used as breeders.

In order to keep the egg production of a flock up to standard it is quite important to know the ages of the hens. To be able to do this it is necessary to have some system of marking. All the chicks hatched this spring might be marked in the same way. A toe punch can be used, or the web between the two toes split with a sharp knife. By marking differently all the chicks hatched next year, the stock can be sorted each year according to age, and the old hens sold.

The speakers on this train discouraged the idea of mixing different breeds of poultry. There are plenty of breeds so there is no need for anyone to waste time in crossing and experimenting. An exhibit containing twenty-nine or thirty varieties of poultry was carried on this train, and after the lectures visitors passed through this car and studied and admired the exhibit.

While in Dickinson County we had our attention directed to the fact that the poultry and egg production of this county in 1915 was twice that of Morris County, two and a half times that of Ottawa County, and twice that of Saline and Cloud. These counties have about the same population and there seemed to be no reason for the greater use made in Dickinson County of poultry as a source of farm income. It would seem to suggest that in these other counties people on the farms have not made the effort they should to improve their poultry and have failed to give this most profitable side line of farming sufficient consideration. There are many communities in the state that could easily realize more from poultry. We know from our experience and observation that there are localities here and there all over the state that in some way seem to have put poultry production on a little higher plane than it is found over the state as a whole.

HEDGE POSTS.

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Forth, Winfield, Kan.

THE STRAY LIST.

TAKEN UP—BY C. E. ELLWOOD, OF Marquette, Harper Township, McPherson County, Kansas, on January 17, 1917, one sow, color red, weight about 200 pounds. No marks. W. E. Rostine, County Clerk.

TAKEN UP—BY W. M. EDDINGTON, Moscow, Grant County, Kansas, on February 1, 1917, one bay mare, two years old, 14½ hands high, star in forehead; left hind foot white, no brands; appraised at \$60. J. E. Corley, County Clerk.

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EXCHANGES. I have good farms to trade for smaller farms and city property. Write me. W. M. GARRISON - SALINA, KANSAS

NESS COUNTY LAND

We have some good farm land in Ness and Trego counties, Kansas, from \$15 to \$40 per acre. Write us for list.

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170 ACRES SMOOTH PRAIRIE LAND—Eight miles McAlester, city 15,000. All tillable. 100 acres cultivation, balance meadow. Fair improvements. \$34 per acre. Terms. SOUTHERN REALTY CO., McAlester, Okla.

The fence that needs repair should not be neglected. In such instances "a stitch in time saves nine" and many times saves veterinary bills and damage to crops.

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, \$4 PER HUNDRED. Nora Lamaster, Hallowell, Kansas.

BARRED PLYMOUTH ROCKS—FARM-BRED beauties. Eggs for hatching, 50 each. Mrs. W. C. Bocker, Solomon, Kan.

HIGH QUALITY BARRED "RINGLETS" 100 chicks, \$15. Eggs, \$5. Edward Hall, Junction City, Kansas.

BARRED PLYMOUTH ROCK EGGS, \$4 hundred. Valley View Poultry Farm, Concordia, Kansas.

WHITE ROCK EGGS, HALBACH strain. \$1.25 per fifteen; \$6 per hundred. Mrs. E. E. Merten, Clay Center, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, \$1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

WHITE PLYMOUTH ROCKS ARE PRIZE winners. Send for catalog. W. K. Trumbo, Box 66-C, Roseland, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, \$4.35 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, \$1; fifty, \$3; hundred, \$5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS FOR HATCHING—Thirty eggs, \$2; fifty eggs, \$3; hundred, \$5. Joe Carson, Bliss, Oklahoma.

BUFF AND WHITE ROCK EGGS, \$2.50 per fifty, \$5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

HIGH QUALITY PURE-BRED WHITE Rock eggs, \$2; fifty, \$5.50 hundred, prepaid. Mrs. John Ramsey, Route 5, Ft. Scott, Kan.

WHITE ROCKS—PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, \$4. H. F. Richter, Hillsboro, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, \$1.25 setting; \$3, fifty; \$5, hundred. Mrs. Ben Miller, Newton, Kansas.

WEIGHER-LAYER BARRED ROCKS—Pens, \$3 to \$5 setting; flock, \$5 hundred. C. F. Fickel, Earlton, Kansas.

EGGS—FANCY BARRED ROCKS, winter layers, \$1.25 and \$2.50 setting. Clyde Karel, Clarkson, Nebraska.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

BABY CHICKS—PURE-BRED BARRED Rocks, White Leghorns, Buff Orpingtons. Heinschel, Smith Center, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS," \$35 cockerel heading Pen No. 1. Eggs, \$4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

PURE-BRED BARRED ROCKS EXCLUSIVELY. Choice stock. 100 eggs, \$5; 50, \$3. Safe delivery and satisfaction guaranteed. Adam A. Weir, Clay Center, Neb.

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BIG BONED IVORY WHITE ROCKS—Gold medal and silver cup winners at Hutchinson shows. Eggs from farm flock, \$5 per hundred. Minnie Clark, Haven, Kan.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, \$3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

PRIZE WINNING BARRED ROCKS—Four entries, five prizes, State Show 1917. Eggs, special mating, \$3 to \$5; farm flock, \$1. C. D. Swalm, Geuda Springs, Kansas.

PURE-BRED WHITE ROCK EGGS FOR hatching, \$1 for fifteen; \$2.50 per fifty. Headed by high scoring cockerels. Arthur Alpers, Route 5, St. John, Kansas.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, \$3 per fifteen; range flock, \$6 per hundred. Mrs. Myrtle Henry, Route 1, Leecompton, Kansas.

BARRED ROCKS, HENS AVERAGED 175 eggs, 1916. Trap-nest males and their pullets mated with fine cockerels. Eggs, 10c; fifty, \$4. Farnsworth, 224 Tyler St., Topeka.

PURE BARRED ROCK EGGS FROM large well-marked range birds, \$1.25 setting, \$6 hundred. Choice Thompson strain pen eggs, \$3 setting. S. R. Blackwelder, Isabel, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, \$5 per fifteen. Utility eggs, \$5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

WHITE PLYMOUTH ROCKS, BEST ALL-purpose fowl. Bred them twenty-four years. No better anywhere. Eggs, \$2 per fifteen, \$5 per forty-five delivered. Thomas Owen, Poultry Editor, Topeka, Kansas.

EGGS FOR HATCHING—FROM BEST laying strains of Barred Plymouth Rocks. Bradley Bros. and Parks 200-egg strains. \$3, fifteen; \$5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BARRED PLYMOUTH ROCK, RINGLET and Bradley strain. Have good show record. Stock for sale. Cockerels, hens and pullets. Eggs, \$2 per setting. Jas. W. Anders, Unionville, Missouri.

WHITE ROCKS—GOOD LAYING EXHIBITION strain. Eggs, \$1 per fifteen, \$5 per hundred. Selected pens, \$4 and \$2 per fifteen. Send for mating list. I. L. Heaton, Route 1, Harper, Kan.

BARRED ROCK SPECIALIST—PRIZE winnings: Hobart, 1st, 2d, 3d, 4th cockerel; 1st, 3d pullet; 1st pen, 2d, 3d cock, silver cup. Gold special, Oklahoma City, 1st pullet, bred pen, first cock. Eggs, fifteen, \$2-\$3; hundred, \$6. Fred Hall, Lone Wolf, Okla.

PLYMOUTH ROCKS.

EGGS—CHOICE BARRED ROCKS, thirty, \$1.50; hundred, \$4.50. Catharine Beightel, Holton, Kansas.

GUARANTEED EGGS FROM PURE-BRED Barred Rocks and Rhode Island Reds, \$1.50 to \$2 for fifteen. Send for booklet. Tom Leftwich, Winfield, Kansas.

BARRED ROCK EGGS FROM PRIZE winners at State Fair, 1917. Pens, \$3 per fifteen; range, \$6 per hundred. S. H. Vincent, Sterling, Kansas.

BARRED ROCKS—73 PREMIUMS, Topeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, \$5; thirty, \$9; fifteen, \$3; thirty, \$5. Chicks, 50c and \$1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

RINGLET BARRED ROCKS—GOOD LAYERS. Eggs from pens prize stock, Pittsburg and Oklahoma City, both matings \$5 setting. Range headed by pen males \$5 hundred. Chicks 12c and 50c each. Circular free. Mrs. W. E. Schmitendorf, Vassar, Kansas.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS—GOOD FARM range, \$4 per hundred, \$1.50 per thirty. Mrs. Rosa Jansen, Box 242, Geneseo, Kan.

PURE-BRED ROSE COMB RED EGGS, \$1 per fifteen, \$5 per hundred. Fine laying strain. Oliver Spencer, Hesston, Kansas.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, \$2, 15; \$5, 45; \$9, 100. Louise Krigbaum, Route 1, Topeka. Phone 2427 K-4.

ROSE COMB RED EGGS FROM BLUE ribbon winners, \$3, \$5, \$7.50 per fifteen. Best of guarantee. Fred Keim, Seneca, Kan.

HIGH SCORING R. C. I. REDS—EGGS, \$1.50 per setting. Fertility guaranteed. Chas. Wodke, Council Grove, Kansas.

S. C. R. I. REDS—EGGS FOR HATCHING, \$1 for fifteen, \$5 per hundred. M. M. Long, Maitland, Mo.

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ROSE COMB REDS—EGGS FROM large, even colored hens, fifteen for \$1.50; fifty for \$4; 100 for \$7. Mrs. Ross Trudell, Mullen, Neb.

SINGLE COMB REDS—CLEAR, BRILLIANT color, heavy laying, big boned. Eggs, \$1 and \$2; \$7 per hundred. G. E. Gregory, Reading, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, \$3 and \$2 per fifteen; \$5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, \$1 per fifteen, \$5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

R. C. REDS—EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, \$3. Mrs. Mira Lambert, Anderson, Missouri.

ROSE COMB REDS—PRIZE WINNERS and special on color at State Fair, 1917. Pens, \$3 per fifteen; range, \$6 per hundred. S. H. Vincent, Sterling, Kansas.

SINGLE COMB RHODE ISLAND RED EGGS, 100, \$4; winter layers, large. Range and fertility. Mrs. Frank B. Smith, Route 2, Lawrence, Kansas.

LARGE, DARK, RICH EVEN RED R. C. Reds—Eggs, fifteen, \$1; fifty, \$3. Dark colored range flock, \$5 hundred. Nora Luthy, Route 6, North Topeka, Kansas.

EGGS FOR SALE—S. C. R. I. REDS—Breeder for twelve years. \$1.50 per setting of fifteen; \$5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing \$15 to \$50. Fifteen eggs, \$2.50; thirty eggs, \$4; fifty eggs, \$6. Fine pure-bred range flock, \$5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, \$1.50 for fifteen. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTES—EGGS FROM choice stock, \$1.80, thirty; \$5, hundred. Mrs. Will Beightel, Holton, Kansas.

WHITE WYANDOTTE EGGS, \$1 PER 15. Martin Fishel strains. Fred Watts, Havensville, Kansas.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, \$1; one hundred, \$4. H. A. Ritter, Route 2, Kiowa, Kansas.

WHITE WYANDOTTE EGGS—FIFTEEN, \$1; hundred, \$5. Careful selection and packing. John Smoley, Marengo, Iowa.

ROSE COMB WHITE WYANDOTTES—Eggs from pen, setting, \$2; from flock, setting, \$1; hundred, \$4.75. Mrs. Effie Acheson, Palco, Kansas.

EGGS—SILVER LACED WYANDOTTES, fifteen, \$1.25; fifty, \$3.50. Rouen and Buff Orpington duck eggs, twelve, \$1.50. Fred Kucera, Clarkson, Neb.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS FROM farm range stock, \$4 per hundred. Vida Hume, Tecumseh, Kansas.

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SHUFF'S "BEAUTIFUL" SILVER WYANDOTTES. Eggs—Fifteen, \$1.50; fifty, \$3.50; hundred, \$6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

COLUMBIAN WYANDOTTE EGGS, \$1.50 setting. Special mating of blue ribbon winners, \$3. J. J. Pauls, Hillsboro, Kansas.

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PURE-BRED WHITE WYANDOTTE AND Single Comb White Leghorn eggs, \$1 per fifteen, \$5 per hundred. A. F. Hutley, Maple Hill, Kansas.

SILVER WYANDOTTES—BEST ALL round bred, vigorous grand laced flock. Eggs, fifteen, \$1; hundred, \$5. Mrs. Ed Bergman, Paola, Kansas.

WHITE WYANDOTTE EGGS—REGAL strain, prize winners. Farm range, \$5 hundred. Pen 1, Martin male direct, fifteen, \$5. Pen 2, high scoring male, fifteen, \$3. Prepaid. Frances Fleury, Concordia, Kansas.

PARTRIDGE WYANDOTTE EGGS, Mahogany strain, \$1.50 per fifteen. Good cockerels, \$3 to \$5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

EGGS—WHITE WYANDOTTES FOR quality. Good layers. Utility, \$1.25 fifteen; \$3 fifty, \$5 hundred. Pen headed by \$10 cockerel direct from Fishel, \$2 fifteen. M. M. Weaver, Newton, Kansas.

LEGHORNS.

TIP TOP ROSE COMB BROWN Leghorn eggs. J. E. Wright, Wilmore, Kan.

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"BARRON'S 268-EGG LEGHORNS"—Eggs, \$5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

PRIZE SINGLE COMB BUFF Leghorns—Eggs, \$5 hundred; \$13, 300. White turkeys. Mrs. S. F. Crites, Florence, Kan.

BEAUTIFUL S. C. BUFF LEGHORNS—Eggs, fifty, \$3; hundred, \$5. F. L. Baldwin, Cascade, Iowa.

ROSE COMB WHITE LEGHORN EGGS, \$1 per fifteen, \$4 per hundred. Ed Goin, Route 3, Stafford, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from heavy laying strain, \$1 per setting, \$5 per hundred. F. E. Fisher, Wilson, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

PURE-BRED BUFF LEGHORN EGGS, \$1 per setting, \$5 per hundred. P. A. Wempe, Seneca, Kansas.

BUFF LEGHORNS, CHOICELY BRED. Eggs, \$5 per hundred. J. A. Reed, Route 2, Lyons, Kansas.

SINGLE COMB BUFF LEGHORN EGGS, \$5 hundred. Satisfaction guaranteed. Alf Johnson, Leonardville, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, \$5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

GOLDEN BUFF LEGHORNS—GREAT layers, silver cup winners. 100 eggs, \$6. Agnes Smiley, Braddyville, Iowa.

SINGLE COMB BROWN LEGHORNS—Fifteen eggs, 75c; 100, \$4. Postpaid. W. A. White, Sarcoux, Missouri.

EUREKA FARM SINGLE COMB WHITE Leghorns, bred to lay. Farm range eggs, \$4 per hundred. Henry Richter, Hillsboro, Kansas.

BROWN LEGHORNS—ROSE, SINGLE comb. Egg production scoring 200 to 280 eggs, \$2 fifteen; \$6 hundred, prepaid. Plainview Poultry Farm, Lebo, Kansas.

SINGLE COMB BROWN LEGHORNS—Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

R. C. BROWN LEGHORN EGGS FROM pen of selected stock, mated for cockerel breeding. Fifteen, \$2; forty-five, \$5. Mrs. Griswold, Tecumseh, Kansas.

FOR SALE—THIRTY SINGLE COMB White Leghorn hens and pullets, extra good laying strain, \$1 each. Blue Grass Stock Farm, Oneida, Kansas.

PURE-BRED ROSE COMB WHITE Leghorns. Eggs for hatching; forty-five, \$2; one hundred, \$4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

S. C. WHITE LEGHORNS EXCLUSIVELY. Decka's laying strain. Many winners. Eggs for hatching, \$6 per hundred. Write for 1917 price list. Yours for quality (Nuf sed), Decka's White Poultry Farm, Route 1, Des Moines, Iowa.

S. C. BROWN LEGHORNS—WINTER layers and beauty strain. Booking orders for chicks to be delivered April 1, any quantity, at \$12.50 per hundred. Eggs at \$5.00 per hundred, trap-nested stock. Pullet in laying contest. Paradise Poultry Farm, Carona, Kansas.

LEGHORNS.

ROSE COMB BROWN LEGHORNS—WON five prizes. Eggs, fifteen, 90c; fifty, \$2.20; hundred, \$4.25. Rufus Standifer, Reading, Kansas.

S. C. BROWN LEGHORNS—OH! YES, we have been raising them 21 years; the 221 to 266 trap nest egg record kind. Eggs, 15, \$1.25; 100, \$5.00. Gorsuch, Stillwell, Kansas.

PURE YESTERLAY 200 EGG LAYING strain Leghorns mated to 240 egg Barron stock. If you want winter layers write Shady Pine Leghorn Farm, Rossville, Kan.

PRIZE WINNING S. C. WHITE Leghorns at two state shows. Eggs, \$2, \$3 and \$5 per fifteen. Eggs from flock, \$5 per hundred. Chicks. Send for free mating list. C. G. Cook, Box F, Lyons, Kansas.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, \$2 fifteen, \$10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

WHITE LEGHORNS

EGG-BRED S. C. WHITE LEGHORNS—100 eggs, \$4. Will Tonn, Haven, Kansas.

WHITE LEGHORN EGGS (YOUNG'S #20 stock). Elsie Thompson, Mankato, Kansas.

HEAVY LAYING STRAIN S. C. WHITE Leghorns. 100 eggs, \$4; 15 eggs, \$1.50 prepaid. Mrs. W. E. McElvain, Denver, Mo.

ONE HUNDRED FERTILE SINGLE Comb White Leghorn eggs, \$4.50 and \$5. Quality guaranteed. Dave Baker, Conway Springs, Kansas.

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, \$5 per hundred. Roy Rhodes, Maize, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from extra good layers and prize winners. Fifteen, \$1; hundred, \$5. I. H. Gnagy, Hutchinson, Kansas.

FRANTZ-BRADSHAW SINGLE COMB White Leghorns. Cooks Owens Buff Orpington eggs, fifteen, \$1; 110, \$4.50. S. A. Warren, Reger, Missouri.

SINGLE COMB WHITE LEGHORN EGGS extra heavy winter layers. Pure-breds. \$4 hundred. Mrs. Wm. Dugan, Appleton City, Missouri.

ENGLISH WHITE LEGHORNS, BRED for laying. Free booklet of practical experience, tells how I cleared \$2,400 last year. Write for it. Eggs and baby chicks. Sunny Slope Farm, Morrison, Okla.

SINGLE COMB WHITE LEGHORNS—Farm range. Heavy laying strain. Hens, \$1.50 each. Eggs, \$1, fifteen; \$5 per hundred. Mrs. Lloyd Kifer, Route 2, Bolivar, Missouri.

SINGLE COMB WHITE LEGHORN EGGS—Heavy winter layers. Won all blues at two exhibitions. Fine pen, fifteen, \$2; farm range, 100, \$5 prepaid. George Schroeder, Frederic, Kansas.

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. \$4 per hundred, \$7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

CLIFF HOUSE PEN, HOME OF THE Rose Comb Rhode Island White. I have no other breeds. "Better every year." Eggs, \$2.50 for fifteen. Hold Cliff, New Albany, Kansas.

BRED TO LAY S. C. W. LEGHORN eggs—fifteen, \$1; hundred, \$6. Exhibition pens, \$2 and \$3, fifteen. First prize winners fifteen shows in strong competition. Thirty silver cups and specials. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

UTILITY S. C. WHITE LEGHORNS—Ferris, Young, Frantz and Yesterlay strains. Eggs, \$1 per fifteen; \$4 per hundred. Sold 8,000 eggs for hatching last season, no complaint. L. O. Wemeyer, Route 1, Anthony, Kansas.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS \$1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

EGGS FROM FELTON'S STRAIN OF mammoth Light Brahmata, \$1.50 per fifteen, postage paid. Mrs. Mark Johnson, Waldron, Kansas.

LIGHT BRAHMA EGGS FROM PRIZE winners at Wichita, Kansas, January, 1917. Geo. W. Craig, 2031 N. Water St., Wichita, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. Request folder. McCune Hatchery, Ottawa, Kansas.

CHICKS FROM FRANTZ-YESTERLAD strains S. C. White Leghorns, 12 1/2c each. Box F, C. G. Cook, Lyons, Kansas.

PHEASANTS.

PHEASANTS—DEMAND UNLIMITED for Ringnecks this spring at \$6 to \$8 pair. Booking orders. Eggs of these, \$4 dozen; Golden, \$5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

RHODE ISLAND WHITES.

100 ROSE COMB RHODE ISLAND WHITE eggs, \$5. Will Tonn, Haven, Kansas.

RHODE ISLAND WHITES—EGGS FROM these grand layers, \$2 for fifteen. Shetland Pony Farm, Coffeyville, Kansas.

GUARANTEED EGGS FROM EXCEL-sior Rose Comb Rhode Island Whites, \$2 per fifteen, \$3.50 per thirty prepaid. V. O. Jones, Bancroft, Kansas.

(Continued on Next Page.)

PURE BRED POULTRY**ORPINGTONS.**

BUFF ORPINGTONS—FIFTEEN EGGS, \$1. Chicks, M. Spooner, Wakefield, Kan.

S. C. BUFF ORPINGTON EGGS, \$4 PER HUNDRED. J. W. Falkner, Belvue, Kansas.

PURE-BRED WHITE ORPINGTONS—Eggs for hatching, \$1 per fifteen, \$5 per hundred. Frank Hinson, Stockdale, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.—Even buff, large type, prize winners. Eggs, \$3 and \$2 setting. John Shaffer, Alma, Neb.

EGGS FROM PRIZE WINNING BUFF Orpingtons, \$2 per 15; fine Barred Rock, \$1 per 15, \$5 100. Mrs. M. Ditto, Newton, Kan.

FINE GOLDDUST BUFF ORPINGTONS—Eggs, \$1.50 setting; \$8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ORPINGTONS, BRED TO LAY. Eggs—fifteen, \$1.50, prepaid. Chicks, 15c. John Oiler, Adrian, Missouri.

BUFF ORPINGTON EGGS FROM MY Des Moines, Kansas City, Topeka, St. Joseph and Omaha winners. H. T. Farrar, Axtell, Kansas.

EGGS—BUFF ORPINGTONS, PART-ridge Rocks, Bourbon turkeys, Toulouse geese and Buff ducks. Mrs. Frank Neel, Beverly, Kansas.

"PAYWELL" BUFF ORPINGTON EGGS from heavy winter layers and blue ribbon stock, \$2 per fifteen. L. S. Weller, Salina, Kansas.

WHITE ORPINGTON COCKERELS, A few pullets. Eggs reasonable. Also Indian Runner duck eggs. James Kennicott, Bunker Hill, Kansas.

STONE'S FAMOUS BUFF ORPINGTONS win at large shows. Eggs from well selected birds, \$1.50 per fifteen, \$4.50 per fifty, \$8 per hundred. J. M. Stone, Palmyra, Missouri.

EGGS FROM CRYSTAL WHITE PRIZE winning stock, White Orpingtons. Great winter layers. Fifty-five eggs January 20 from sixty-five hens, at live and let live prices. Send for list. John Vanamburg, Marysville, Kansas.

SEVERAL BREEDS.

EGGS—BARRED ROCKS, BRONZE TUR-keys and Pekin ducks. Grace Aspedon, Faragut, Iowa.

EGGS—S. C. BLUE ANDALUSIANS, BLUE Orpingtons, Buff Leghorns, Buff Orpington ducks, Bourbon Red turkeys. Circular. John A. Huber, La Crosse, Kansas.

EGGS FROM EXTRA GOOD BOURBON Reds, \$3 for eleven. Silver Laced Wyandotte eggs, \$1 for fifteen. Julia Haynes, McDonald, Kansas.

ALL VARIETIES LAND AND WATER fowls, imported stock. Winners of thousands of prizes. List free. Rose Lawn Poultry Farm, Beaver Crossing, Nebraska.

BARRED AND BUFF ROCKS—SINGLE Comb White Leghorns, Fawn and Penciled Runner Ducks. Eggs—fifteen, \$1; hundred, \$5, from range flocks. J. T. Rickman, Kiowa, Kansas.

PURE-BRED BOURBON RED TURKEY eggs, \$3 per eleven. Pure-bred Rhode Island Red eggs from open range herd, \$1 per fifteen, \$4.75 per hundred. J. W. Harshbarger, Milo, Kansas.

EGGS—M. B. TURKEY, NEW YORK prize winning blood in flock, \$3 per eleven; geese eggs, African, Embden, Toulouse, \$1.75 per seven; White Muscovy ducks, \$1.75 per eleven; White African guinea, \$1.50 per seventeen; White Rock, Fishel strain, \$5 per hundred. W. L. Bell, Funk, Neb. Dry Creek Poultry Farm.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, \$5 per hundred, \$1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE, EGGS—EGGS FROM PURE-breeds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmans, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

DUCKS AND GESE.

PURE TOULOUSE GESE, EGGS, \$1.50 per six. Ada McCandless, Sterling, Kansas.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, \$1 setting, \$5 hundred. Mrs. Ben Miller, Newton, Kansas.

TOULOUSE GESE AND EGGS FOR sale or trade for Runner ducks. All breeds. Emma Ahlstedt, Roxbury, Kansas.

FAWN WHITE INDIAN RUNNER DUCKS from best laying strains in the country. Fifteen eggs, \$1; fifty, \$2. Nort Luthye, Route 6, North Topeka, Kansas.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, \$3 and \$2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, \$2; pen No. 2, \$1.50 for fifteen eggs, \$6 per hundred. W. F. Fulton, Waterville, Kansas.

"The food of the child determines the future of the citizen and the physical strength of the potential fathers and mothers of the state."

PURE BRED POULTRY**LANGSHANS.**

BLACK LANGSHAN EGGS FOR HATCH-ing. C. E. Dralle, Seward, Kansas.

GET MY FREE MATING LIST OF MAD-ison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

GOOD BLACK LANGSHANS—EGGS, 7c; over 100, 6c. Baby chicks, 15c. Mrs. Geo. W. King, Solomon, Kansas.

BLACK LANGSHANS—STOCK FOR sale. Cocks, cockerels, hens and pullets. My birds have great show record. Eggs, \$3 per setting. Jas. W. Anders, Unionville, Mo.

BLACK LANGSHAN EGGS, \$3 FOR 15, from my San Francisco and Kansas State Show winners, 1917. H. M. Palmer, Florence, Kansas.

BLACK LANGSHANS—EGGS, FIFTEEN, \$1.25, \$1.50 mailed; 100 \$5, \$6 mailed. Baby chicks, 15 cents. Mrs. J. B. Stein, Smith Center, Kansas.

EGGS—PURE-BRED BLACK LANG-shans exclusively from free range fowls, \$1 for 15, \$5 for 100. Mrs. John A. Roberts, Route 5, Stanberry, Mo.

PURE-BRED BLACK LANGSHANS—EX-cellent stock, farm range. \$1 for fifteen eggs, \$2 for fifty eggs. Mrs. Ell Williams, Route 3, Riverton, Neb.

BUCKNELL'S BIG BLACK LANGSHANS—Bigger and better than ever. Eggs at the same old price, \$1 for fifteen, \$5 for 100. Postage or express prepaid. R. E. Bucknell, Hardy, Nebraska.

ANCONAS.

S. C. ANCONA EGGS, \$5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SINGLE COMB ANCONAS EXCLUSIVELY. Eggs—fifteen, \$1; 100, \$5. W. T. Likes, Williamsburg, Kansas.

SINGLE COMB ANCONAS—EGGS, FIF-teen for \$1.25 or \$6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, \$1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

ANCONAS—BLUE RIBBON WINNERS. Eggs, \$1.50 per fifteen, \$6 per hundred. Pens two and three, \$1.25 per fifteen, \$5 per hundred. Frank Glenn, Newton, Kansas.

SEND FOR MY "ANCONA DOPE" AT once. Tells why I quit all other breeds. It's free and worth reading. Fill orders for eggs promptly. Page's Ancona Farm, Salina, Kansas.

TURKEYS.

PURE-BRED WHITE HOLLAND TUR-key eggs. Winnie Litton, Peabody, Kansas.

MAMMOTH WHITE HOLLAND TURKEY eggs from the large boned kind, \$3 per ten. Box F. C. G. Cook, Lyons, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH BRONZE TURKEYS OF high quality. Good copper bronze and white edging. Have show record. Eggs—\$6-\$10 per dozen. Jas. W. Anders, Unionville, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, \$1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BOURBON RED TURKEYS, WORLD'S best strain. Great big, vigorous, farm-raised, deep-breasted birds. Also white-egg Indian Runner ducks, all from prize winning stock. Elenora Poultry Ranch, Brighton, Colorado.

Kearney, Neb., March 17, 1917.
KANSAS FARMER, Topeka, Kan.

Enclosed find copy for classified poultry ad, which you will please run in your publication. This will make the fifth time I have used your paper, as an advertising medium, and it has never failed to bring me a goodly amount of business, and new customers every time. Sincerely,
H. H. McLELLAN.

FARM AND HERD.

The annual meeting and banquet of the Central Shorthorn Breeders' Association was held at the Cates House in Kansas City, Missouri, April 4. About 300 members were present. The report of the secretary and treasurer showed the affairs of the association in a flourishing condition. The officers elected for the ensuing year are as follows: President, H. M. Hill, LaFontaine, Kansas; vice-president, L. O. Oden, Maryville, Missouri; secretary and treasurer, John A. Forsythe, Pleasant Hill, Missouri; sales manager, W. A. Forsythe, Greenwood, Missouri.

The jack and jennet sale held by W. J. Finley, of Higginsville, Missouri, March 28, was one of the best sales of the season. The top of the sale was \$2,625. This was paid by L. M. Monsees & Sons, of Smithton, Missouri, for Limestone Big Boy by the champion Orphan Boy. The next high price was \$1,300 for Dr. McChord 3d, purchased by F. A. Barney, Silver Lake, Kansas. The twenty-seven jacks averaged \$530.20 per head; six jennets, \$184 per head. The general average for the thirty-three head catalogued was \$467.25.

The fourth annual sale of the Central Shorthorn Breeders' Association held at Kansas City, April 4 and 5, under the management of W. A. Forsythe, of Greenwood,

HORSES AND MULES.**30 JACKS AND JENNETS**

A few good jacks suitable for herd jacks and good mule jacks from fifteen to sixteen hands standard. Prompt workers and sure breeders. Guaranteed absolutely right in every way. Priced to sell. We mean business. Come and see us.

LOUIS MILLS & SON

ALDEN, RICE COUNTY, KANSAS

**JACKS AND JENNETS**

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,

Moline, Elk County, Kansas

**Imported and Home-Bred PERCHERONS AND BELGIANS**

A gilt edge guarantee of 60 per cent, good for two years, given with each horse sold.

W. H. RICHARDS

Emporia - Kansas
Barns four blocks from
A. T. & S. F. depot.



PERCHERONS—BELGIANS
Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 22 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Chariton, Iowa. (Above Kansas City.)

Home-Bred Draft Stallions, your choice \$500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

REGISTERED PERCHERONS
Yearling and two-year-olds, both sexes. Good breeding and individuals grown in a way to make useful animals. Would trade filley for Shorthorn bull good enough to head herd of registered cows.
GEO. S. APP, Route 2, ARCHIE, MISSOURI

HAMPSHIRE HOGS

SMITH'S HAMPSHIRE HOGS
Extra good October boars and gilts. Best breeding, well belted. Also head boar, proven breeder. Priced right.
S. E. SMITH - LYONS, KANSAS

Whitewater, Wis., March 17, 1917.
KANSAS FARMER, Topeka, Kan.

Enclosed find check to cover advertising, also run our ad until you hear from us to stop it. We had splendid success and are well pleased with it. Yours respectfully,
FINDLAY BROS.

Missouri, was one of the very successful sales of the season. The 159 head catalogued sold for \$45,455, or an average of \$222 per head. The 103 head of bulls averaged \$243 per head. The fifty-six females sold for \$363 per head. A September two-year-old heifer topped the sale at \$1,500. The record high price was \$1,005, paid for a January yearling heifer.

The combination Polled Durham and Shorthorn cattle sales held at Omaha, Neb., March 29 and 30, under the management of H. C. McKelvie, were among the most successful sales held this season. On March 29 sixty-one Polled Durhams sold for \$15,885 or an average of \$260.40 per head. On March 30, seventy-two head of Shorthorns sold for \$18,860, or an average of the two days' sale was \$261.20. Buyers from nine states were present and the entire offering was high class. Most of the cattle sold were in fine condition.

The offering of bulls that will go into the series of Aberdeen-Angus Association annual spring bull shows and sales to be held April 24 to May 4 has been very carefully selected and a more useful lot of bulls has never been offered by the association. The sales will be under the management of Charles Gray, secretary of the association. Four hundred head of bulls have been catalogued for the various sales. The opening sale of the circuit will be held at St. Joseph, Missouri, April 24.

Catalogs are out for the sale of registered Duroc and Poland China hogs to be held by Fred G. Laptad, of the famous Laptad Stock Farm, Lawrence, Kansas, April 25. Mr. Laptad has catalogued forty head of carefully selected Durocs and Poland from his great herds for this sale. The offering will include twenty choice boars and all females will be sold with the privilege of breeding to any of the great boars in the Laptad herds. The entire offering is cholera immune.

One of the good Percheron horse and jack sales of the season was held at Oakland Stock Farm, Chillicothe, Mo., March 20. While all the jacks sold were youngsters, they sold for an average of \$301 per head. Buyers were present from a number of states and one jack went to a breeder at Miles, Mich. The Percheron offering was made up of young stock and sold for a good average with a top of \$305. The entire offering was first class and was of the type and breeding that has made Oakland Farm famous for good Percherons and jacks.

The best farm in any county is the farm that has a properly protected water supply, a fly-proof toilet, an outside sleeping porch, screened doors and windows, a vegetable garden, a flower garden, and shade trees.—Kansas State Board of Health.

HORSES AND MULES.**POLAND CHINAS**

FOR SALE
Good Stretchy Poland China Fall Boars. Ed Heavers, Junction City, Kansas.

TOWNVIEW FARM
Big-Type Poland Chinas.
For Sale—25 summer and fall gilts, stred by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 35 summer boars. Come and see my herd.
C. E. GREENE - PEABODY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Have only a few of last fall's litters left. Write your wants to
THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2, Burlington, Kan.

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.
L. C. WALBRIDGE - RUSSELL, KANSAS

LANGFORD'S SPOTTED POLANDS

Boars—Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

POLAND CHINA HOGS 150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

BIG-TYPE POLANDS

Have 100 head of February and March pigs that we are booking orders for to be shipped at weaning time. Boars, \$25, and sow pigs at \$30 each, \$50 a pair. Book your order now and get the pick. Guaranteed to please.
O. G. LEASE & SON, CENTRALIA, KANSAS

GALLOWAY CATTLE.**GALLOWAY BULLS**

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE**EDGEWOOD FARM**

ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

SHORTHORN CATTLE.**Sycamore Springs Shorthorns**

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

STUNKEL SHORTHORNS

Herd Headed by Cumberland Diamond.
For Sale—Twenty bulls from yearlings to eighteen months old, Scotch and Scotch-topped. Also a few bred cows and heifers. Come and see me. Prices reasonable.
E. L. STUNKEL - PECK, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawth in service. Orange Blossoms, Butterflies, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

RED POLLED CATTLE.**Red Polled Cattle**

A few 1916 fall bull calves for sale. Also a few cows and heifers.
AULD BROS. - FRANKFORT, KANSAS

Parker, Kansas.

KANSAS FARMER, Topeka, Kan.

A number of the breeders that bought hogs at my bred sow sale on March 15, 1917, said to me, "You want to give KANSAS FARMER credit for this sale," and that is the way I look at it. I want to thank you for the way you handled my sale and the number of breeders that you had here. Yours very truly,
W. T. McBRIDE.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

AMERICAN

Aberdeen-Angus Breeders' Association

SPRING BULL SHOWS AND SALES

400 - BULLS - 400

TO BE SOLD IN A SERIES OF TWO WEEKS SALES.—THERE WILL BE MATURED BULLS, TWO-YEAR-OLDS AND YEARLINGS—ALL READY FOR HEAVY SERVICE. SHOW BULLS, FARMERS' BULLS AND RANGE BULLS.

- 75 Bulls and 18 Cows and Heifers at St. Joseph, Mo., Stock Yards, Tuesday, April 24
- 86 Bulls at Omaha, Nebraska, Stock Yards, Wednesday, April 25
- 68 Bulls at Sioux City, Iowa, Stock Yards, Thursday, April 26
- 67 Bulls and 11 Heifers at East St. Louis, Ill., Stock Yards, Tuesday, May 1
- 81 Bulls at Chicago, Ill., Union Stock Yards, Wednesday, May 2
- 50 Cows and Heifers at Chicago, Ill., Union Stock Yards, Thursday, May 3
- 50 Bulls, Cows and Heifers, at Rochelle, Ill., Friday, May 4

CLASSIFICATION AND CASH PRIZES TO BE OFFERED AT EACH BULL SALE

	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th
Bull over 18 months of age....	7	6	6	5	4	4	3	3	3	2	2	2	1	1	1
Bull under 18 months of age..	7	6	6	5	4	4	3	3	3	2	2	2	1	1	1

The Association during the past three months has made a complete inventory of all the bulls of the breed of serviceable age in the country and has listed same for these sales. This will be the last opportunity this season to secure bulls of serviceable age, because all the bulls that are not listed are too young for heavy service.

Don't forget, cattlemen, breeders and rangemen, the Aberdeen-Angus is the greatest beef breed in the world. This has been demonstrated at all the leading shows and stock yard markets of the country.

At Chicago, out of a possible fifteen prizes for single steers, Aberdeen-Angus have won ten grand championships and nine reserves. In the fat carloads they have won twelve out of a possible fifteen, and out of fifteen grand championships for carcass they won fourteen times.

Aberdeen-Angus have also proved their superiority in Feeder Competition at all the leading shows and stock yards of the country by winning grand championships and selling at record prices. At Denver in 1917 a load of Aberdeen-Angus feeders sold for \$14.50 per cwt., which is the record up to date.

SUMMARY OF 1916 FAT CARLOAD LOT PRICES AT CHICAGO INTERNATIONAL EXPOSITION

- Ten loads of Aberdeen-Angus steers averaged..... \$18.58
- Ten loads of Hereford steers averaged..... 15.75
- Ten loads of Shorthorn steers averaged..... 15.93

These figures show that the Aberdeen-Angus sold for an average of \$2.65 per hundred pounds more than the Shorthorns and \$2.83 more than the Herefords. These figures are practical because they were obtained where the same number of loads of the best of each breed were assembled. They further show very clearly the degree in which the Aberdeen-Angus breed leads all other beef breeds in establishing top market prices.

If you are in need of a bull, or bulls, or some females, and cannot attend sale, or sales, send your order to your commission man.

AUCTIONEERS: IGO, COOPER, TELLIER AND KEPNER
For further information and catalogs address

CHARLES GRAY, Secretary and Sales Manager

817 EXCHANGE AVENUE

CHICAGO

PARK PLACE SHORTHORNS

Four Great Herd Bulls

IMPORTED BAPTON CORPORAL

Bred by J. Dean Willis, Sire, Hoar Frost, winner at Royal Shows of England.

IMPORTED NEWTON FRIAR

Dam, A Marr Flora, Sire, Violet's Victory. Bred by Wm. Duthie and a great show bull.

ROSEWOOD DALE

Dam, Imported Rosewood 92d, Sire, Avondale.

ROYAL MAJOR is bred from the greatest family of milking Shorthorns in America. Dam with a great record. Two full sisters making 13,000-pound record now.

BREEDING STOCK FOR SALE AT ALL TIMES

Scotch, Scotch Topped, and Milking Families. Two Hundred Head in Herd. FOR IMMEDIATE SALE—One carload of bulls, one carload of heifers, one carload of cows that will drop calves soon or calf at foot.

Come and bring your neighbors with you and save freight. I pay the freight and send a competent man in charge and deliver free to you carload lots. Will meet buyers at Wichita by appointment.

PARK E. SALTER, Wichita, Kansas

PHONE MARKET 3705 OR 2087

302 BITTING BUILDING

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

LINSCOTT JERSEYS

Dispersion Sale, May 31
R. J. LINSCOTT - HOLTON, KAN.

Sweet Spring Stock Ranch and Jersey Cream Dairy

The homes of High Class Registered Jersey Cattle Stock for sale at all times of very best blood lines.

D. S. MAYHEW, Prop. - MONETT, MO.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

BEDMAN & SON - TIPTON, MISSOURI

JERSEY CATTLE.

DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.

DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

Breeders' Directory

- ANGUS CATTLE. Geo. M. McAdam, Holton, Kan.
- Geo. A. Deitrich, Carbondale, Kan.
- D. J. White, Clements, Kan.
- RED POLLED CATTLE. Mahlon Greenmiller, Pomona, Kansas.
- JERSEY CATTLE. J. B. Porter & Son, Mayetta, Kan.
- DORSET HORN SHEEP. H. C. LaTourrette, Route 2, Oberlin, Kan.

MULEFOOT HOGS.

Bargain in BIG TYPE fall boars for the next forty days.
Sinn's Mulefoot Ranch, Alexandria, Neb.

HOG SALE

Laptad Stock Farm

LAWRENCE, KANSAS

Cholera Immune



Cholera Immune

Wednesday, April 25, 1917

40 Head - Polands and Durocs - 40 Head
Send For Illustrated Catalog

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

OLYDE GIROD, At the Farm

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

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Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

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