

# KANSAS FARMER

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For the improvement



of the Farm and Home

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## THREE DAYS' LEAVE IN PARIS

Millions of Yanks Are Taking in the Sights

By WALTER K. TOWERS

WITH 15,000 doughboys, and a few odd thousand officers and gobs swarming through the boulevards, Paris today looks like a Yankee ground—and indeed it is a bit of.

Paris has been designated as a base area for the American Expeditionary Forces and is now in full operation as such. That the Yanks are in Paris is due to General Pershing. With the fighting he felt that the millions of young Americans who had never seen Paris, who under the existing rules never could see Paris, should be given this opportunity. American general headquarters were at Chaumont, the headquarters of the service of supply at the port bases at Brest, St. Nazaire and Bordeaux, with supply depots at Le Havre and other points. These being almost American cities. Through the Yanks moved in a steady stream to and from the American front. It was the French headquarters, under French control and in the French hands. Few Americans had any business in Paris.

course khaki was always in sight on the streets of Paris, as certain business had offices there. And Yankee industry discovered all sorts of excuses for finding business in Paris. A soldier detached service who had been coming cars, for instance, and who was on his way back would so select his route that it would take him through Paris. Officers on detached service would be the same.

at the great bulk of the Americans, who had been moved from point to point as such, had no opportunity to see Paris. To them it was a closed book. Then General Pershing took his army and things began to happen. The army pointed out that the railroads leading into Paris were badly overloaded and the problems of registering and keeping track of the soldiers, grave. Their own soldiers were not allowed in Paris unless they could show near relatives resident there. The British, Canadians and Australians were not allowed in Paris. But the American idea triumphed.

another difficulty was the overcrowded condition of the city itself—lack of sufficient hotel accommodations. The Y. M. C. A. and the Red Cross already had in operation hotels for both officers and enlisted men and immediately opened another large hotel for enlisted men. The Red Cross opened a hotel for officers and another for enlisted men. Both organizations would have opened further hotels but they were themselves blocked by the Paris hotel keepers. For four years their business had been ruinously poor, and now Paris was filling up and rooms were in great demand at high prices, they were not disposed to turn over their hotels to an American organization. The hotel keepers joined together to resist the taking of further hotels by Americans. As the various delegations for the peace conference had taken many of the hotels for their accommodation, the situation was still further complicated. The problems were attacked with energy and quarters found here and there; barracks were erected at the

race course, and similar means adopted. It is estimated that accommodations could be found for 15,000 soldiers—this with a three-day leave 5,000 are sent in each day. In addition there are the army officers arriving on leave and the bluejackets.

First at the railway station they encounter the inevitable military policeman, who herds officers and men alike to the registration booth of the American provost marshal. While they are waiting in line to register, to show their papers authorizing them to visit Paris and to obtain the card securing them from arrest there as A. W. O. L.'s, the Y. M. C. A. men who meet all trains distribute pamphlets with maps showing the location of all Red Triangle, Red Cross and other American auxiliary service organizations in Paris, as well as army headquarters and points of interest.

If the men arrive in Paris hungry they may secure a meal at the Red Cross eating place close by the depot where American girls make them welcome and serve them a bountiful meal at a cost of about fifteen cents. Arriving at the Red Triangle or Red Cross

hotels the men may find the accommodations there exhausted but are usually referred to other small hotels in the vicinity where they may secure accommodations within reach of their pocket-books. Rates at these hotels, whether for officers or enlisted men, vary from fifty cents to a dollar and a half a day. The Paris hotel under French management, which a year ago asked two dollars for a room, now gets five, or even ten.

Settled in his hotel the Yank immediately turns to making the most of his three precious days in Paris, and to seeing as much as he may in that brief time. Enabling him to see Paris is the task of the Y. M. C. A. This entertainment is furnished free. Sightseeing cars with competent lecturers make the rounds of the boulevards and give the men a chance to get their bearings. Red Triangle men start forth from the "Y" hotels, from the Palais de Glace—the big "Y" hut on the Champs Elysee—and from other central points every morning and afternoon leading parties of doughboys and gobs who visit the most interesting spots and enter public buildings, museums and churches, where

brief lectures are given.

The most popular of all spots in Paris today is the Pantheon de la Guerre, a great panoramic painting depicting the Allied armies and their accomplishments. This was begun by a group of French artists in 1914 and kept up with sublime faith and zeal as a record of victory and a memorial to the fallen. It is a remarkable painting containing many thousands of portraits of officers and other notables among the Allied forces. The big building is usually packed with Yanks from morning until night, and in the afternoon it is not uncommon to find four Red Triangle guides there with parties of from fifty to eighty soldiers, each explaining the picture.

The boat trip on the Seine is a favorite with the sightseers. The Y. M. C. A. steamer leaves the Place de la Concorde dock after lunch and steams up the river with its load of soldiers and sailors until it reaches the junction with the Marne just above Paris. The trip is continued upon the historic Marne for a short distance. Then the boat turns and steams down stream while the lecturer begins the explanation of the points of interest along the banks. First come the great wine depots near the upper gate of Paris, then the customs houses, the many fine bridges, the cathedral of Notre Dame, and then the public buildings.

Beyond the Eiffel Tower comes the Statue of Liberty, a smaller replica of the one presented by France to America and standing in New York harbor. Here there is always a demonstration as the soldiers look forward to the happy day when they will sail by the larger statue on a larger steamer. The great modern manufacturing plants of Paris line the banks at the lower end of the city and give the Yank who has been long billeted in the ancient villages of France a new idea of French industry. The steamer continues on down to St. Cloud, where a landing is made while the party visits the site of the palace of Napoleon, which was destroyed during the Franco-Prussian war.

Of the trips by train to spots about Paris the most popular is the one to Versailles, which is made every afternoon. The party is conducted through the great palace, where special arrangements have been made to open parts which have been closed during the war. Other trips are made to Fontainebleau, St. Germain and La Malmaison.

A variety of entertainment is offered for the evenings. There are concerts and often movies at the Y. M. C. A. hotels afternoons and evenings. The big Palais de Glace, with a seating capacity of 2,500, offers a fine entertainment each evening, besides furnishing a lounging place during the day. The Y. M. C. A. also operates a theater, free to all in uniform, where a company of American players perform. The Red Triangle also has an amphitheater with a capacity of 8,000 where boxing bouts and similar shows are held; and the Knights of Columbus operate one seating some 3,000.

The preservation of national vigor should be a matter of patriotism.

## Soldiers Go To College in France

THE cap sheaves of the agricultural program of the Army Educational Commission are the College of Agriculture at the A. E. F. University at Beaune, in Central France, and its Farm School at Allerey, just a short distance from Beaune. The University as a whole occupies a former American hospital center, outside the small city of Beaune, and has an enrollment of 6,000 students in its eleven different colleges. It has been under full swing since the middle of March, when a flood tide of young American soldiers came sweeping into the camp from all parts of the A. E. F., packs and guns on their backs, gas masks and tin hats dangling at their sides.

In the College of Agriculture there is an enrollment of 800 students. They are enrolled in about forty different studies, grouped in four general departments—animal husbandry, agronomy, horticulture and forestry, and rural economy and sociology. The work is conducted much as it is in the home agricultural colleges, except that not so much work in live stock judging is possible in France because of the difficulty of securing live stock for this purpose.

In the Farm School there is an enrollment of more than 2,500 young men. It is devoted exclusively to agricultural work which combines classroom instruction with practical work on the 350-acre farm that is operated in connection with the school. It has a considerable equipment of live stock and farming tools as well as land. In all, sixteen different agricultural studies are offered here, along the fundamental lines of agricultural training.

This work, with the remainder of the education program, was taken over by the army, April 16, and will be conducted under its immediate direction, although the educators recruited from the United States by the Y. M. C. A. will remain as members of the educational corps of the army. The Y. M. C. A. had completed its share of the task in making possible the execution of the plan and carrying it through its beginning and experimental stages at a time when the army had neither the time nor the men nor the money available to undertake it.

In the beginning many thought that in the time when they were waiting to go home, the soldiers of the A. E. F. would not have patience for educational work, that they would not show any interest in it. But that was a mistake. A fine student spirit has been shown everywhere. All the way through the farmersoldiers have been ready for business and any teacher or speaker who comes to them with something worth while in agriculture or any other subjects gets a hearing that is gratifying to him—a new kind of attention that his own class rooms at home could not offer.



## Small Dairyman Attains Big Success

IT IS not necessary to own a large farm and be backed with unlimited capital to make dairy records. Kansas has a new champion milk cow and she is owned on a Riley County farm of only fifteen acres. George Young and his two boys, Fred and Clemons, started in two years ago to build up a pure-bred dairy herd upon this little farm. This new record heifer and her full sister were started on semi-official year's records, Lady Volga Colanthus III being the first to complete her record. We referred in KANSAS FARMER some weeks ago to the records these heifers were making.

The tests were well under way when the Young boys answered their country's call and left their father alone with the work, and it is no small task to carry on official test work, milking the cows three or four times a day as is necessary in making big records. During the time the boys were in military service it was not possible to milk the heifers four times a day, but they were kept on test and came through in fine shape. The KANSAS FARMER editor was a special guest at the Dornwood Dairy Farm near Topeka last week when the members of the dairy judging class of the agricultural college were working on dairy herds, and Fred Young told us at the supper table how his father got up at 4 o'clock each day while they were gone and milked the test heifers in order that their records might be finished, if possible, and how his mother later went out and helped haul feed for the cows. Fred proudly related these incidents in order that it might be understood how his father and mother had sacrificed while he and his brother were gone and carried on the test work during the cold winter months. When the boys were discharged they found there had been no break and they were able to carry the heifers through to the end of the year, Lady Volga Colanthus II completing a semi-official year's record of 21,396.2 pounds of milk and 659.346 pounds of fat, equivalent to 824.18 pounds of 80 per cent butter, displacing the Ayrshire cow Canary Bell, holder of the state record since November, 1918, with a production of 19,863 pounds of milk.

Lady Volga Colanthus 2d's record was made at three years, seven months and fourteen years of age. The dairy department of the agricultural college, which supervised the tests, points out that she now stands as the leading cow for both milk and fat in the senior three-year-old class; holds the highest record for both milk and fat of any cow in the state under full age; ranks fifth in fat production any age, only two living cows having larger fat records than she, and is the champion milk cow of any age of all breeds in Kansas. She freshened in rather poor condition but in spite of that fact she made a seven-day record of 564.2 pounds of milk and 24.6 pounds of butter which still stands as the highest record for both milk and fat in the senior three-year-old class of the seven-day division. Her highest production for one day was 91 pounds of milk, but her good record was made possible by her great persistency. This is best shown by her seven-day test eleven months after freshening when she produced 365.6 pounds of milk and 14.05 pounds of butter. The above records are not forced records, but are the result of inherent ability plus good feeding and care. This has been proven by the recent performance of her full sister, Lady Volga Colanthus 3d 340140. The latter started her record at the age of two years four months and eleven days and finished her 365-day period with 18,573.3 pounds of milk and 548.334 pounds of fat, equivalent to 685.42 pounds of butter, to her credit. This places her first in the junior two-year-old class for both milk and fat, exceeding the former junior two-year-old record by nearly 3,500 pounds of milk. She also holds the fifth highest milk record in Kansas and now stands as the third highest record living Holstein in the state. Soon after freshening she made a seven-day record of 426.3 pounds of milk and 14.387 pounds of butter and demonstrated her persistency by producing 333.8 pounds of milk and 13.696 pounds of butter twelve months after calving.

These are truly a great pair of heifers, as their average production for the year is 20,008.3 pounds of milk and 755.17 pounds of butter at an average age of

two years, eleven months and twenty-seven days.

Now comes the tragedy of the story, says F. W. Atkeson, assistant in dairying, in commenting on these records. The sire of these wonderful young cows was sent to the butcher when a very young bull. He was used only a very short time, leaving behind just six pure-bred daughters. The breeding of these heifers is fair but nothing exceptional, but think what value this bull would have had if used on a large herd and then kept until his daughters were tested.

Mr. Young owns the dam of these heifers, Lady Volga Colanthus 217904, and expects to test her this coming year. She was stunted and bred too young and as a result she is about the size of a Jersey and very plain looking, but she is a great breeding old matron. She has three A. R. O. sisters, a 17-pound, 18-pound and 27-pound cow, one of which gave 715 pounds of milk in seven days under official supervision. Mr. Young is pinning his faith to the progeny of this little cow and now owns one yearling daughter besides the above mentioned cows; three granddaughters through her daughters, and one great granddaughter. He only owns seven cows of milking age and has only owned pure-bred Holsteins two years and a half. The first cows he purchased were Lady Volga Colanthus 2d and Lady Volga Colanthus 3d, for which he paid \$200 and \$175 respectively. Mr. Young would not care to part with these two alone for \$1,200 now and he feels that their calves are worth \$300 each. This is certainly a handsome profit over the original investment in three years time, but what success he has had any good dairyman can have if he will buy good cows and then give them the proper treatment and test them officially.

Mr. Young's two boys are taking the dairy course in the Kansas Agricultural College. Fred is in his senior year and Clemons is in his sophomore year in school. To these boys is due much of the credit for the new state records. They milked and fed the cows four times a day throughout the year and attended school at the same time, except for about two months when they were both in military service. By the time they have finished school they hope to have raised enough Holsteins to justify them to leave their fifteen-acre plot for a large farm. It is useless to state that the boys are not looking for jobs after they finish school, but instead are dreaming of the future firm of George Young & Sons.

### Silage from Sunflowers

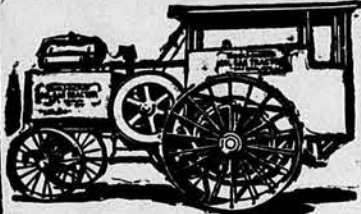
The sunflower gained a place in Kansas by taking possession of roadsides and all fields which were left untilled. While unpopular with the traveler, the sunflower was always present during the growing season to cover unsightly spots and store sunshine for the future.

Kansas finally tolerated the sunflower on account of its aesthetic value. But, it was left for settlers in Colorado, Idaho and Montana to give the sunflower a place among useful crops. For years wild sunflowers have been used as winter forage. And recently many tests have been made which show that silage from sunflowers is almost as good as that made from corn. For making silage, they must be grown in rows and cultivated like corn. If planted thickly in the rows, they can be cut up with a silage cutter the same as corn. They must be harvested before the stems are ripe, but the more seed there is, the better silage they make.—J. E. PAYNE.

### Beef Cattle Prices Uncertain

"Good beef cattle will probably sell high next September. The other kind will go down. There is no doubt but what beef cattle will be cheaper." This opinion was expressed by Mr. James of Swift & Company at the cattle feeders' meeting at the Missouri College of Agriculture May 16. Yet Mr. James was not sure. He said the whole beef cattle market was uncertain. If export trade with Germany is resumed, beef prices may stay up. If the laboring men are kept employed they will consume large quantities of meat, which will have a steadying effect on the beef market. So many ifs stand in the way of a definite answer.

The feeder who buys stock cattle this spring, runs them on good grass this summer, and sells them next fall, must



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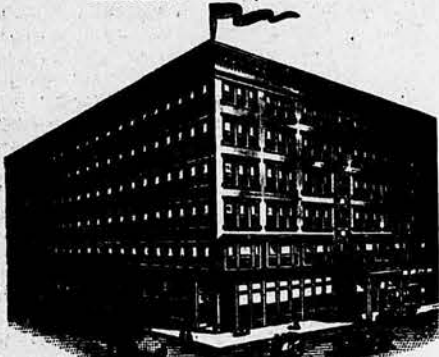
It is also a good power plant for plowing and other heavy farm work.

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figure on receiving a lower price than them, in the opinion of Mr. James. The lower grade of cattle will have to compete with the Texas and other stuff.

The feeders expressed great interest in the future market—the next few months. The discussion was summarized in the statement: "It is very hard to predict the market at any future time. We have had, in the last two months, great fluctuations from week to week—an irregular market. After all, five months depends upon the supply. It depends upon the business of the country. If we keep our labor employed and pay high wages we will expect high prices for beef cattle and pork. There is a possibility that at any time we may have increased export trade. It may be possible to get some of our beef to Germany. It might be possible the packers would get a small amount contract."



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## K. S. A. C. COMMENCEMENT

cluding thirty-five students who receive their degrees at the close of the summer school in August, the graduates of the Kansas Agricultural College this year will number approximately 185. This small class is due to the influence of war conditions, although it is only five or six less than the number graduating a year ago. Many of the men of the class received their degrees in absentia, having answered their country's call and gone to the training camp or battle line in Europe. Some of this year's graduates were those who dropped out last year before completing enough of the course and they had returned and finished up with this year's class. Others dropped out are no doubt continuing their work in France where Prof. E. Call of the Kansas institution, many other specially trained men, teaching in the university at Beaune, carried on for our soldiers by the National Commission of the Army. In spite of the fact that so many men college work performed military service during the war, over thirty were to complete their work and get degrees in agriculture. It was rather interesting to note that two girls completed the course in agriculture and received degrees this year. One of these will have quite large farm interest and is going back and will probably largely in the capacity of farm manager. Ten men were sent out as doctors of veterinary medicine and a number more will finish during the summer receive their diplomas at the end of the summer school. Practically all these primary graduates are going into general veterinary practice, most of them in their home communities. The veterinary profession is being more and more organized as a calling fully on a par with the practice of human medicine, as evidenced by this demand for practicing veterinarians in the various communities.

the graduates in agriculture, some completed their work at the end of the semester, and others have not been school at all the present year, having finished the necessary work in the summer school last year or by correspondence. One agricultural graduate who specialized in power machinery goes to a farm machinery company. Another student who specialized in horticultural work goes into partnership with his father, who operates a horticultural business. These incidents are interesting because they show the use students are making of their training and the percentage of many who have managed to finish their college work in spite of the hardships growing out of the war and its effect on general conditions.

the twenty graduates in engineering, every man has been taken by such companies as the General Electric, Westinghouse, or Bell Telephone. There is an ever-increasing demand for men along engineering lines, and the school at Manhattan is rightfully getting a certain proportion of the boys attend and turning them out thoroughly competent to fill these positions in the industrial world. Fifty young men of the eighty or more graduates in some economics, including a few from general science course, have already taken positions as teachers beginning the fall.

the students received degrees in industrial journalism. Four master's degrees were given and three professional degrees in engineering. The exercises of the week began with the baccalaureate sermon given June 1 by the Rev. W. E. McCulloch, pastor of the Homewood United Presbyterian Church of Pittsburgh, Pennsylvania. The theme of the sermon was the saintly life and Doctor McCulloch pointed out that the best proof we have of Christianity is in the life of men and women who are truly godly, that the strongest argument we have for religion is virile Christian living. He deprecated the ten-

dency of some modern religious teachers to minimize the human element in religion to such an extent that human individuality would seem to be almost annihilated. "If we understand Christianity aright," said Doctor McCulloch, "it means the fullest, freest, noblest expression of individuality. To be saintly is to be and to do our best."

Bolshevism was the subject of the annual address given before the Phi Kappa Phi, honorary scholastic fraternity, Monday evening by Dr. Guernsey Jones of the University of Nebraska. The Commencement Day address given Thursday forenoon was by Dr. L. H. Bailey of Ithaca, New York, one of the most widely known agricultural writers of the country. Following this address President W. M. Jardine presented the diplomas to the graduates in the different divisions of the college work. This is always an imposing and inspiring feature of the Commencement week.

War activities were not so much in evidence on the campus at the agricultural college this year as last. A year ago even the ground floor of Nichols Gymnasium was being used as a barracks for the men receiving intensive training for military service. This year the customary military drill and dress parade of the college cadet battalion, which has long been a feature of the afternoon of Commencement day, could not be given because the students who had been issued uniforms by the War Department last fall had turned them in just before Commencement week.

A much larger and more prominent place than usual was given to the alumni of the institution in this year's program. Wednesday was designated as Alumni day. In the morning the student assembly was conducted entirely by the graduating class. In the afternoon the usual business meeting of the alumni association was held, followed in the evening by a reception in the home economics building to the new members of the alumni and later a general all-college reception in Nichols Gymnasium. This larger recognition of alumni activities was highly gratifying to graduates and former students. The men and women who have gone out from the Kansas Agricultural College in years past are coming to a keener realization of what it means to the state to have such an institution sending out its influence in ever-widening circles. It is hoped that those who have in years past received so much of value from the institution may find a way to do more in returning through public service of various kinds the debt they owe the state and the institution. The agricultural college, its graduates and former students nobly rendered service in the great conflict against the pagan ideals of the Prussian autocracy. But now that the war is over there are the even greater problems of peace and the organization of a new world. The would-be good citizen must never forget that the world needs its heroes no less in peace than in war. In witnessing the scenes and events of Commencement week at our Kansas State Agricultural College, it seemed that this institution, belonging as it does to the people for whom KANSAS FARMER is edited, was doing its part in a splendid way and has even greater opportunities for service in the period just ahead of us.

## LEGALIZE COLLECTIVE BARGAINING

A bill has been prepared and has probably been introduced into Congress which will clearly make it lawful for farmers to collectively bargain in disposing of their products. The purpose of the act is to make clear the intent of the Clayton act. The proposed amendment in no way changes the policy already established by Congress. Congressional intent was apparent in Section 6 of the Clayton act, but it was so obscurely expressed that the question of what farm organizations may lawfully do was left uncertain. This act made the exception of farm organizations "not having cap-

ital stock." In many states, however, there is no law authorizing the formation of associations without capital stock, which makes it impossible for farmers in those states to bring their organizations within the class exempted in the Clayton act.

The right of farmers to bargain collectively in the sale of their products is being attacked in the courts. Milk producers around Chicago to the number of 16,000 have attempted through organization to compel the payment of a price for their milk which will insure them a reasonable profit over the cost of production. The state authorities are now investigating these milk producers with the avowed purpose of having them prosecuted under the federal anti-trust law known as the Sherman Act.

Labor is a large factor in the productive cost of many of the articles coming from the farm, and the men who sell products into which has gone a large amount of their own labor should have the same rights to act together in a common interest as does organized labor. Labor has long been recognized as having this right and is specifically exempt from the provisions of the Sherman Act. Legislation is needed to equally protect farmers.

The amendment proposed will clearly place organized farmers upon the same plane as organized labor. Section 20 of the Clayton act clearly permits laborers to bargain collectively and farmers are only asking that they be permitted to make collective sales of the products of their labor.

The bill referred to has been prepared by J. D. Miller, vice president and general counsel of the Dairymen's League, at the request of the National Board of Farm Organizations. It has been drawn up only after consultation with official representatives of the National Grange who have pledged their earnest support in securing its enactment. This act is entitled "An act to supplement existing laws against unlawful restraints and monopolies and for other purposes." The following sentences will make clear the purpose: "That the labor of a human being is not a commodity or article of commerce. Nothing contained in the anti-trust laws shall be construed to forbid the existence and operation of labor, agricultural, dairy, or horticultural organizations instituted for purposes of mutual help and not conducted for profit, or to forbid or restrain individual members of such organizations from lawfully carrying out the legitimate objects thereof; nor shall such organizations or the members thereof, be held or construed to be illegal combinations or conspiracies in restraint of trade or commerce under the anti-trust laws."

The right set forth in this amendment to the Clayton act is vital to all farm organizations. Farmers, both individually and through their organizations, should bring pressure to bear on Congress demanding that the federal anti-trust laws be amended so as to permit farmers to bargain collectively without being under suspicion or in danger of indictment by the federal courts.

## MARKETING GOVERNMENT MEAT

The close of the war found the government in possession of immense stores of all kinds of war necessities. It should be clear to anyone that throwing these vast stores on the market might be disastrous to the industry concerned. It is our understanding that the government has entered into definite agreements with the various manufacturing industries to dispose of its surplus in such a way as not to demoralize the industry through a sudden breaking of prices. The government has great numbers of trucks, automobiles, vast quantities of clothing, shoes, and materials of all kinds.

The various industries are claiming the right to be protected, for it would be against the interest of all to have any industry seriously crippled because

of the sudden dumping of any government surplus on the market. Now the point we are getting to is the matter of extending the same protection to agriculture as is being given to other industries. For example, large quantities of canned meat have been accumulated for the government to be used by the army. This has been stated to amount to as much as 200 million to 300 million pounds. The government and the packers have been conferring on the disposition of this vast store of meat, apparently with the idea of distributing it with the least possible disturbance of trade conditions. In some of the eastern papers the demand is being boldly made that all this meat be dumped on the market at once for the specific purpose of breaking prices so consumers can buy provisions at greatly reduced prices.

While everyone sympathizes with the desire to lower prices of necessities, the welfare of the industry itself must be considered. Meats are still being produced at wartime cost. If it is a sensible business precaution to protect manufacturing interests, it is also the part of wisdom to extend the same protection to the farmers and meat producers. Farmers are not so well represented in Congress as are the manufacturers. Their rights are not so likely to be forcefully presented in a matter of this kind. It would be well for Granges, Farmers' Unions and individual farmers to send to their representatives in Congress letters asking that the same measure of protection be extended to the farmer as is being extended to the manufacturer.

## THE PRICE OF BEEF

In spite of the fact that the price of beef on foot has been steadily declining since January, there has been little indication in the retail trade of a decline in prices. In fact investigations show that in Kansas City retail butchers have steadily advanced prices on beef to keep pace with the advancing pork prices. Packers at the Chicago conference presented figures showing declines in dressed beef of 75 cents a hundred during the two or three weeks preceding the conference. The retail butchers of Kansas City, however, deny that there has been any decline in the wholesale price of beef, according to a recent news item in the Drovers' Telegram. The man who tried to finish cattle for market in answer to the call sent out for increased meat production last fall knows to his sorrow that the price of beef on foot has declined enough to make his feeding operations lose him money, and if it is true that the people who are eating the meat are paying as much or more now than last January, he has a right to call for a showdown as to who is profiting at his expense.

It has just been announced that an agricultural trade commissioner to work in foreign lands in the interests of American food producers has been named by the Federal Department of Agriculture. This is a decidedly new departure. Edward A. Foley, the man appointed, will begin his investigations in the United Kingdom and study the marketing and distribution of farm products with a view to the development and improvement of foreign trade in the produce of the farms of this country. During the war Mr. Foley was associated with the enforcement division of the Food Administration and was in charge of the enforcing of regulations governing perishable fruits and produce. He represented the Food Administration in the joint hearings of the Federal Trade Commission and the Food Administration, and also represented that body in joint hearings with the Shipping Board Emergency Fleet Corporation in investigations relative to profiteering in foodstuffs. Considerable interest will be attached to the results of this effort to investigate foreign markets for agricultural products.



# PERMANENCY OF AGRICULTURE

## Can Plain Farming Live as an Industry?

**T**HE future of farming, or can plain farming live as an industry? was the theme of a most comprehensive address given in Washington, D. C., recently by S. L. Strivings, of Castile, New York. Mr. Strivings is a successful farmer, is president of the federation of farm bureaus of New York, and lecturer of the New York State Grange. In this address he covered in a most forceful and concise manner the many problems of the industry and touched upon some phases of rural questions about which we seldom hear. We give below a portion of what Mr. Strivings said in analyzing the farm situation and pointing out the relation of farming to other occupations.

"The real foundation of every industry is the toil and genius, the patience and contentment of its humble workers. If some great manufacturing enterprise has been prosperous and has attained a place of note in the industrial world, it has done so largely because it has had a prosperous body of intelligent toilers, whose genius and faithfulness have promoted its growth.

"The plain farmer is now, ever has been and will be the real foundation of agriculture. The rich man may buy the land, erect fine buildings, install all the modern machinery and up-to-date facilities for the prosecution of the business, stock it with costly animals—in fact make it a fine machine for the manufacture of the goods it was designed to produce; but without the toiler, who knows how to produce the goods, the whole enterprise will fail.

### Agriculture in Testing Days

"If ever agriculture as an industry was passing through testing days, they are now. A determination of the status of an industry cannot be justly made by viewing either its extreme failures or its marked successes. A view as wide as the industry must be made to justify a conclusion. Not all the problems of agriculture are the result of the war—in fact, most of its difficulties are the result of conditions of slow growth and of long standing: The depleted rural population and its contra, the phenomenal growth of towns and cities; the segregation of the great capitalistic wealth in the cities, and its opposite, the growth of burdensome financial problems in the country; the growing love of ease and luxury, coupled with leisure and the opportunity for gratification in the city, and its contrary, the continued long hours of toil in the country, with its isolation and lack of social privilege, are not the accidents of war nor the outgrowths of war conditions, but are the sure results of economic conditions, nation-wide and of long standing, which cause thinking men in the country to wonder what the future of plain farming will be.

### Untrained Attitude Toward Farming

"It is not entirely strange that these things are not understood by the nation. The education of the whole people has been away from the farms. Agricultural education is in its infancy, and it is but recently that it was deemed necessary to train a man for the industry of agriculture. We have been laying the emphasis upon professional and industrial education, forgetting that the very life of the nation depends upon maintenance in prosperity of its fundamental industry—farming.

"Again, it is not strange that the rural problems aren't understood when we consider the fact that about 50 per cent of our population live in cities and towns, and that farming, if carried on successfully, is as much of a science and as profound a study as are the arts and industries.

"It is not to be wondered that the nation's laws have been shaped without regard to agriculture, and often to its disadvantage, because few or none of the law makers had any adequate knowledge of rural conditions. Their notion of a farmer was an inferior man, who ought to be content to be permitted to live in this land of liberty, and whose occupation somehow made him of a bit coarser fiber and ruder mold than the rest of the people of the land. He was felt to have a kindred relationship to the ass he drove or the mold he turned. Somehow the final declaration, 'Dust to dust,' meant less of a step for him than

those of finer mold. The trend of almost all education has been from the farm, not toward it. It is therefore little wonder that the great industry of food production is not understood.

"In the beginning we were a nation of farmers. Gradually our industrial development acquired impetus, but it has been of comparatively recent years that the headlong rush to the cities and the rapid growth of the town has made us forget the country and lose sight of its problems and our absolute dependence upon it for the life of the nation.

"Many of the most active of the men of the city were country-bred, but the changes in the economic conditions affecting country life have been so rapid that even these men know little intimately of the real problems of the country today.

### Economic Changes Affecting Farming

"The whole gamut of the farm conditions of a century or less ago has changed. There is no comparison between food production then and now. It was thought that food was cheaply produced—at least it was sold cheaply, in fact often for less than it actually cost, or at least for less than its actual value. It has been but in recent years that we have come to know that the farmer sold some other things of value with his grain. He thought that he could sell wheat at a dollar a bushel and make money, but he has found to his discomfiture that he sold a part of his farm with every bushel of his grain, and took no note of it.

"Out of his soil went his nitrates, his potash and his phosphorus, as well as the humus and the lime without reckoning, only to be bought back in these years at prices which make serious inroads upon the product of the farm, and at a time when the nation, educated to buy its food cheaply, cannot understand why he cannot produce the wheat as cheaply as he did fifty years before.

"The father and grandfather had sold off the farm the fine forests. The costly pine had been cut to build the near-by towns or cities, having been sold for a song, while the stumps had been upturned to make fences which have outlived three generations. He did not have to replace them with costly wire bought at a market when the whole world is competing for the product of the mines to supply the maw of war or the competition of well paid industry.

"The splendid oak was cut and split into rails which did service for from fifty to sixty years, made into floors in the barns, or sold off to make more elegant the fine residences of the cities, at a paltry price, only to be bought back when the buildings need repairs or rebuilding at prices which make the farmers wonder who profited by the wonderful natural resources skimmed off the

nation's farms in the days the fathers sold the wheat for a dollar, never figuring the fences or the buildings, or the posts or the soil, or the humus or the stumps or the rails, or the thousand and one other things which cost nothing and were used up without reckoning of that day when the buildings erected by the fathers would need repairs; when the shaved pine shingles, which outlived two generations, would have been replaced by the costly red cedar brought from the Pacific slopes of Oregon or Washington.

"The farmers of yesterday sold the farms to the city with his too cheap products, and gave rural resources to make rich the centers of the nation's population, with no thought of the time when, with changed economic conditions, he would need them all again. He is paying for them now:

"Fertilizers at prices well nigh prohibitive; fences from the costly products of the mill and mine, which when bought do not compare in lasting qualities with those stumps and raw products which were never figured in at all in the primitive cost of those other days; building materials, no longer the product of the farm where they originally grew, but now from the slopes of the Pacific, or the forest glades of the Carolinas or Georgia, or the almost denuded hillsides of Pennsylvania; fuel, not from the woods, but from the mines of some distant state, take the place of the wood supply sold off to eke out an existence during the hard years; fence posts from the cedar stumps of the Gulf States; sugar, not from the maples cut for wood or sold to commercial interests long ago, but bought, if at all, at high prices, and with difficulty.

"All these and many more small things, once made easily right at home from the natural resources of forests and field, now obtained if at all only by purchase in a scarce market and at a high price. Handles of tools, runners to sleighs, boards for many uses, planks for floors, tongues to wagons and implements, all were at hand, with only the labor of odd times to prepare them.

"These are a few of the outstanding economic changes which must affect the cost price of the nation's food supply, and when to these you add the strife with insect pests which infest the growing crops, the myriad fungus diseases which the genius of agricultural experts is required to combat, and the new problems of marketing, packing, grading, and infinitum, you have some of the causes why wheat cannot be produced at a dollar, and why food must be costly.

"And when to all these you add labor, bad enough before the war, but doubly aggravated since the war, and the competition of industry have so seriously depleted the remnant left in the country, it is a wonder the nation has enough

food of any kind. It is but a redundancy of words to speak of labor and its condition in the country. The price offered by all kinds of industry—of all proportion to what the farmer can pay; the thousands of semi-idle or entirely idle farms; the under-production due to the feeling that less plowing must be done, less cows kept and less production undertaken, with full knowledge that the crops cannot be cared for if planted nor harvested if grown. It is little wonder that the situation demands attention.

"In the face of these facts and the inadequacy of the prices received by the farmers for their products, as well as the permanently increased cost not only of labor but of all those items needed for the operation of a modern farm, is it any wonder that thoughtful men in the country, as year by year they see the strongest and best of the country's manhood going away, seriously wonder whether plain farming can live as an industry?

### Could a Fundamental Industry Die?

"It may seem peevish to ask such a question as that here propounded, but seriously, must farming live as an industry? What do we mean by that word, industry? It may be that food production must ever be the occupation of many people, it may even be of a majority of the people, nay more than this, no one will deny the right of all the people to enter the ranks of production and grow the food they wish to eat. War gardens point that way. But whether food production as an industry engaged in by the few for the support of the many, can be made to thrive and prosper, is quite another question and deserves quite different consideration.

"What makes an industry live? Probably the same reason that called it into being, viz., the hope of reward. The away the incentive of production in a line and it will rapidly decline as an industry. The carriage industry, once thriving, has declined since the horse and buggy have given way to the auto. It did not pay to weave rag carpets in the homes, and the home loom went into oblivion. Socks could be more cheaply bought than knit at home, and the spinning wheel went out of use as a part of the home equipment.

"Unless the products of the factory will return an income adequate to the upkeep of the plant, the support of the pay-roll on such a basis that its employees can be kept in prosperity and content, and a living return made to the owners and operators upon their investment of brains and capital, the business will die.

"It may be regretted by many an axiom to say that farming must live, and so we will agree. But we feel that it differs markedly whether it must live as an industry for the minority who shall find in it inducement sufficient to pursue it to the support of the many, or whether it shall live as a necessary labor for the many who, obedient to the divine law of life, must seek it as a means of individual sustenance.

"If farming were an industry we could afford to lose, we might view it with indifference, but when the very life of the nation depends upon it—when it is one industry we cannot spare, then its proper maintenance as a national industry becomes of paramount importance. No sooner was the nation at war than the knowledge that an adequate food supply would be of vast consequence became apparent to the leading men of the nation. It was well known that but a small fraction of our people were engaged in the business of food production, and that this fraction produced to grow much smaller with the demands of war. Yet, in the face of this very knowledge, many methods were set in motion which tended to retard rather than encourage production.

"Food production was of vastly greater consequences than any regulatory enactments affecting its use or distribution. First we needed the food itself rather than exertion to regulate either its price or its distribution and use. Yet, its price or its distribution and use, expended by the states, as well as the federal government, in statutory regulation.

(Continued on Page Nine)

## Urgent National Legislation

**T**HE matter of repealing the so-called Daylight Saving Law came up the day Congress met. The sentiment for repeal is in evidence to a very large degree, and the measure to repeal the law has been made a part of the agricultural appropriation bill, written by the House Committee on Agriculture, of which Congressman Haugen of Iowa is chairman.

But there are many representatives and some senators who have not yet become convinced that the people—even the farm people—want this obnoxious measure repealed. Do you, Mr. Reader, want it repealed? If you do, write a letter today to each of your senators, and one to your congressman, telling them so, and why. This is placed first because it is the most urgent. Write today.

Farmers who have organized to market their own products are being prosecuted in Illinois and have been threatened with prosecution elsewhere, for violation of the anti-trust laws. The situation is acute in the Chicago milk district. Representatives of farm organizations, engaged in co-operative marketing enterprises, have agreed that an amendment to the "Clayton amendment" is necessary to clarify the situation and explicitly extend to farm interests the protection already extended to labor, which is specifically excepted from the law in collective bargaining as to the price of labor. The amendment is being drafted, which will state that non-profit organizations engaged in collective bargaining for the sale of their own produce shall be exempt from the operation of the anti-trust law. This amendment is being considered now; it is urgently needed in the great farmers' co-operative movement. If you believe that co-operative selling is right and essential to the best interests of agriculture, see that the matter is rightly understood and presented to your representatives in Congress.—Bulletin, Washington Headquarters, National Grange.



# DEVELOPMENT OF IRON HORSE

## A History of Tractor Evolution in the United States

**M**ANUFACTURE of tractors for agricultural use has grown greatly in a comparatively few years, but a big field is still open to manufacturers in the small farmers' business, which can be gained only by the introduction of all-purpose tractors that can be used economically on farms of under 100 tillable acres. This is stated by a farm management specialist of the United States Department of Agriculture in a review of the development of the tractor in this country.

Prior to 1905 practically all power plowing was done by steam. If there was any machine in use at that time employing an internal combustion engine as its source of power, the case apparently has never become a matter of record. Steam plowing had been in vogue for a number of years, especially in regions such as the Dakotas, Montana, and the Canadian provinces of the Northwest. Here were found bonanza farms consisting of thousands of acres, one crop of wheat sometimes paying for the entire farm. These large tracts, stretching away for miles in a level and unbroken plain, offered conditions which were suitable for these mammoth steam outfits weighing many tons.

Several factors had a bearing on the elimination of steam as a source of power for plowing and the substitution of the internal combustion engine.

The fuel was bulky for the power transmitted, and the storage space on the engine was small. Several men were required. The steam engine as then constructed could not stand the constant strain and rough usage necessary in plowing. It was necessary to spend considerable time in care and repair, just as is required by the railroad locomotive after a five or six hour run.

There was a demand by operators for a machine which would do away with these disadvantages. Interest was shown by various manufacturers and their attention was directed toward the development of a machine using the internal combustion engine.

Apparently, 1905 was the first year that a gas tractor advertised as a source of power for plowing was placed on the market. This machine employed a double-cylinder engine, using gasoline for power and oil for cooling. It had a rating of twenty-two nominal and forty actual brake horsepower and was capable of pulling six to eight twelve-inch plows, depending on the soil. The weight was practically the same as that of the steam engines, about nine and one-half tons. While operators were not satisfied with the steam tractors on the market, there was then considerable prejudice against the gas tractor, so that machines were built which looked as much like a steam engine as possible. Perhaps this fact, to some extent, tended to overcome the prejudice and make for the popularity of the outfit.

By 1908 so much interest was manifested throughout the Northwest in the gas tractor that it was decided to hold a motor competition in connection with the industrial exhibition at Winnipeg, Canada. During the week of July 13-17, 1908, this contest was held, the first of its kind on the American continent. Machines were exhibited by five companies; two other companies entered, but withdrew. The rules of the contest limited the weight to seven and one-half tons to keep out steam rigs. This rule barred one gas tractor, as it weighed nine and one-half tons.

### Early Tests Unsatisfactory

The tests upon which final award was based consisted of hauling, plowing, and manipulation. Some of the soil conditions were not ideal, and a bad impression was given in the hauling tests. The barred machine put on a private demonstration and made an excellent showing, using kerosene except to warm up the motor at the beginning. The significance of this contest was that the weak points were shown and that it started the development of practical motors for small farms.

In 1909 a similar test was held at Winnipeg and six companies demonstrated machines. The contest was divided into four classes: (a) Internal combustion, twenty horsepower and under; (b) twenty-three horsepower; (c) over thirty horsepower, and (d) steam

**TRACTOR TAKES THE PLACE** of surplus horses required only for heavy work.

**A POWER SHORTAGE EXISTS** on most farms. It is too expensive to keep the surplus horses needed.

**TWICE AS MANY HORSES** are required for rush seasons as for year-round farm work.

**SURPLUS POWER NEEDED** can be more cheaply supplied by a tractor than by horses.

**THE TRACTOR CAN WORK** continuously during seasons of extreme heat.

**WAGES OF TRACTOR OPERATOR** no greater than of the team driver.

**EXPENSE OF THE TRACTOR** when idle is stopped by simply turning a switch.

**DRAFT HORSES OF GOOD QUALITY** are holding up in price on the market. This is evidence of the demand for horses to perform certain classes of work.

**THERE IS PLENTY OF WORK** for which horses are more efficient than the tractor, both in the city and on the farm.

**GOOD DRAFT MARES** can be more successfully kept on farms if relieved of the horse-killing work of the rush seasons.

**THE TRACTOR IS THE HELPER** rather than the enemy of the good horse.

engines. This contest created much interest in manufacturing circles, and many manufacturers were present to obtain useful information, which showed that they were alive to the possibilities attending the development of a successful tractor.

At this time it was estimated that there were between forty-five and fifty firms or individuals making, or attempting to make, tractors. Naturally, many were makeshifts, as the possibilities of "getting in on the ground floor" in an industry in the making was recognized. Another contest was held the same summer at Brandon, Manitoba, with practically the same machines entered as at Winnipeg.

To Winnipeg must go the honor of starting an idea which has done a great deal to develop the tractor industry rapidly. These tests were the forerunners of others in various sections of the United States and Canada that have given farmers the opportunity of seeing these machines at work and deciding on the merits of the individual tractors.

### Tractor Shows Develop

In 1909 five tractors were exhibited at the Omaha Land Show. It was intended to make this exhibition a permanent feature, but failure to find suitable land for plowing caused the idea to be abandoned. Not until 1913 was anything on a large scale attempted in the United States. Then a demonstration

was held at Fremont, Nebraska, in which twenty-three manufacturers exhibited thirty-nine tractors. From this time on a national tractor demonstration has been held each summer, with an ever-increasing number of manufacturers exhibiting, until at the last show, held in Salina, Kansas, in 1918, over 300 machines were entered, and fifty-three manufacturers were represented. A winter meeting is held each year at which manufacturers of tractors and accessories exhibit. This show has been held in Kansas City, Missouri, for the past four years. Various local shows are put on each summer, and since 1916 these have continued throughout the summer, beginning in Texas and continuing northward. In March, 1919, the first large demonstration of the year was held in the South at Macon, Georgia, which shows that the South is alive to the possibilities of tractor farming.

As previously stated, there was estimated at between forty-five and fifty firms or individuals making or attempting to make tractors in 1909. The Office of Farm Management, United States Department of Agriculture, has always kept in close touch with the tractor industry, and the files show that in 1919 there were 102 firms actively engaged in manufacturing tractors and 162 firms and individuals planning to begin in the near future.

The following production figures show the enormous growth of the tractor in-

dustry in the comparatively short time it has been in existence:

### Farm Machinery—Farm Power, March 15, 1915

1912. . . . .	11,500
1914. . . . .	15,000
1915. . . . .	21,000

### Farm Equipment Control, United States Department of Agriculture

1916. . . . .	29,670
1917. . . . .	62,742
1918. . . . .	132,697
Manufacturers' Estimated Production	
1919. . . . .	314,936

### Character of Tractor Changed

In the beginning the tractor was constructed to simulate the steam engine in appearance. As time passed and prejudice disappeared, many refinements took place, until today it is a compact, well-built machine, capable of performing a multitude of operations. The first machines were heavy, rough affairs, capable of pulling eight, ten or more bottoms. It was soon recognized that if the industry were to prosper a machine would have to be built which would be practical for ordinary sized farms. The result was that small machines came on the market, built to pull two and three plows. This type of tractor appealed to the small farmer.

There are now more two and three-plow machines built than of all other sizes combined. There are, however, a number of companies still making a large-sized tractor, which is still used on the big farms of the Northwest and the Pacific Coast.

### How Tractor was Transformed

From the rough machines of 1908 and 1909 with single cylinders, chain drive, cast gears, excessive weight, exposed working parts, and poor accessibility have been developed machines of light weight with inclosed working parts, friction and various gear drives, electric fixtures, radiator cooling systems, cut and hardened gears, multiple cylinders, air cleaners, kerosene carbureters, one-man control, and an easy accessibility—all this at a price of one-half to one-fourth the cost of the early machines.

Owing to varying conditions, there are two types of machine on the market at present—the crawler and the wheeled type. The purpose of the crawler is to prevent miring down on soft ground. The same principal was employed by tanks in the late war. The wheeled tractors are more numerous and employ various devices to obtain traction, such as lugs, grouters, spikes, cleats, and extension rims. Again, some wheels have a device giving a stepping arrangement, as in the P-T wheel, which was developed by two Italian army engineers. A few tractors employ both the crawler and wheel.

As yet the tractor industry is comparatively young, and what its ultimate effect on farming will be it is impossible to say. The trend seems to be toward motorized farms and the elimination of horse power. This is best shown by the fact that motor trucks are being purchased by farmers in ever-increasing numbers and that the motorized corn cultivator is coming into use in increasing numbers.

There are two important problems the solution of which would no doubt help the tractor industry to a great extent. These are the standardization of parts and a uniform method of rating. Manufacturers have not overlooked these things, but have passed them by in the rush for business.

### Mutton for Soldiers

The United States government is in the market for a million and a half pounds of fresh frozen mutton. During the war practically no lamb or mutton was purchased. The occasional use of lamb among such a cosmopolitan group as our present army, it is declared, will result later in having a widening effect on the market when the soldier becomes more familiar with this article of diet.

Sheepmen say that when the demand for lamb from the corn belt and the far west, such as now exists in New England, increases, lamb prices will not go tumbling every time the weekly supply for the nation runs over 125,000 head.



TRACTOR OPERATING NEIGHBORHOOD THRESHING OUTFIT



# GENERAL FARM AND STOCK ITEMS

## Something of Interest for All—Overflow from Other Departments

**T**HE question frequently is raised as to just how great has been the loss of fertility on our Eastern and Central Kansas farms. It can be easily shown by the statistics of our State Board of Agriculture that crop yields have steadily decreased during the past thirty years. R. I. Throckmorton, soil expert at the agricultural college, is authority for the statement that fully one-third of the organic matter of the soil in Eastern and Central Kansas has been lost during this period. Probably no one factor in connection with the productive capacity of the soil has a greater influence than the supply of organic matter. Professor Throckmorton says that our Kansas soils are still fairly high in fertility, but the decrease is becoming apparent in the eastern section of the state. He assigns a number of causes for the general decline in soil fertility, among them being failure to follow proper rotations, waste of manure, using the lister improperly, which results in undue soil erosion, the burning of straw, cornstalks and other organic material, and the selling of large quantities of plant food from the soil in the form of hay and grain.

### Why Lime Is Needed

A reader says that he understands lime is not considered as a fertilizer and yet he hears a great deal about the need of liming soils. He wishes to know just what lime does in the soil. The function of lime, briefly stated, is mainly that of counteracting the acid in the soil. Most of our leguminous crops, for example, do not thrive in sour soil. Soil fertility is very dependent upon the activities of various forms of bacterial growth. The bacteria cannot thrive in a sour soil. Therefore alfalfa or clover cannot thrive unless the soil is free from acid, and this means that our soils must be limed to correct this condition. One of the first steps in soil enrichment is the growing of leguminous crops. There can be no systematic soil building without following rotations in which growing leguminous crops enter. Wherever lime for neutralizing acid is deficient, it must be supplied.

### Watch for Potato Wart

A serious disease of the potato, called the potato wart, has been introduced, as have most of our plant diseases, from Europe. Everyone having potatoes should be on the lookout for this new potato disease. The United States Department of Agriculture is planning a campaign against it which will be supervised in this section, we understand, by J. W. Blachly, specialist in plant diseases, who is co-operating with the agricultural college in his work. He has quite extensive demonstration work under way in the control of a number of potato diseases.

This new disease is supposed to be confined to certain districts in the East, and it is highly important that it be prevented from spreading farther. Wherever it becomes established, potato growing must stop. The germs of the disease may live in the soil for as long as eight years. Quarantines are established around infected areas. The potato wart disease produces the appearance of a warty, spongy, cauliflower-like growth on the potatoes. Occasionally an entire tuber may become converted into spongy, warty masses. If you should see any potatoes anywhere with such growths upon them, report at once to the experiment station, Manhattan.

### Pasture Crop Returns

In Sumner County, where the question of permanent pasture is one of the big problems, the experiences of a number of farmers have been gathered by the county agricultural agent. In this county, as in many other counties, the native grass pastures have been largely plowed up, and a constantly recurring question is, What can we do for permanent pasture?

The native grasses of Kansas have been developed through a long process of evolution and are especially adapted to conditions. Domestic grasses which can be seeded for pasture or meadow have not as yet been developed which will successfully take the place of the native

grass. Efforts to reseed the native grasses have not met with success. In Sumner County the reports of the men investigated by the county agent seem to indicate that the greatest success has come from pasturing sweet clover and Sudan grass. An especially interesting result is given by Otto Wenrich. On sixty acres of sweet clover Mr. Wenrich pastured twenty heifers, seventeen cows, 125 hogs and 172 head of sheep. On twenty heifers the gain while on the pasture was 300 pounds a head, which valued at 9 cents a pound would amount to \$540. One-fourth of a pound a day was credited to 125 hogs during the period they were on the sweet clover, and this at 15 cents a pound amounts to \$750. On eighty head of sheep a return of \$320 is estimated, or a total return of \$1,610, approximately \$27 an acre for this sixty acres of sweet clover pasture. Enough of the plants matured seed to reseed the ground. It can also be safely assumed that the soil has been improved both by the effect of the sweet clover and by the manure dropped by the stock. This man reported that he had no difficulty in getting the stock to eat sweet clover and had pastured his

each and attaches itself to the walls, where it obtains nourishment by sucking the blood of its host. The worms are about the size of a thread and from three-quarters of an inch to an inch in length. The lambs in the flock are always more severely affected than older sheep. A young lamb badly infested with stomach worms will become pale, thin and weak, and may die, while older and stronger animals, although heavily infested, may remain in apparent good health. Mature sheep that have survived the effects of the worm seem to have acquired a tolerance or immunity.

In order to intelligently combat the stomach worm it is necessary to know the life history of the parasite. The lambs get them from the grass they graze. In the fourth stomach the worms when fully developed lay enormous numbers of eggs which pass from the animal in the bowel discharges. They hatch in a very few days and the embryos grow rapidly, getting their nourishment from the droppings in which they live. In a short time they molt, or shed their outer covering, and develop at this time a heavy outer sheath or skin which protects them from cold. In this stage,

measures from the very start.

The medicinal treatment is necessary when lambs become seriously infested. Drenches of various kinds are given, such as gasoline or turpentine. Probably as effective a treatment as any is to dose with copper sulphate or blue vitrol. Prepare a 1 per cent solution and give it in doses of three ounces to a sheep a year old or older, one and a half to two ounces to a lamb over eight months of age, and one ounce to younger lambs. The dose can be administered with a drenching bottle or a rubber tube having a funnel at one end. Care must be used not to strangle the lamb while drenching it. The lamb should be standing when drenched, raising the nose to a level with the eyes. Previous to treating for stomach worms they should be kept from feed and water over night in order that the fluid will pass directly to the fourth stomach and have a chance to act on the worms before becoming diluted. They should not be allowed to drink for a few hours after dosing, for the same reason.

The most important treatment, however, to urge upon the beginner is that of prevention by rotation of pastures and keeping the lambs entirely away from pastures upon which mature sheep have grazed the previous year.

### Silo Capacity

F. R. L. Smith County, asks for information on silo capacity. He expects to put up a silo the coming year and wishes to know in advance how much silage he is providing capacity for.

There is much confusion in estimating silo capacity because the weight of silage increases with the depth of the silo. It is not a difficult matter to calculate the cubical contents of a silo, but when it comes to figuring how much silage it will hold, its depth and the depth of the silage after it has settled become an important factor. For a good many years the capacity figures worked out by Professor King of the Wisconsin Experiment Station and published in 1889 have been used by silo owners and manufacturers, but in most cases they have overlooked the fact that the silage must settle two days after filling before its height is to be measured. The result has been that silo capacity is usually over-estimated. A man who buys a 120-ton silo, for example, finds that he seldom is able to take out more than a hundred tons of silage, perhaps, if he has any facilities for weighing it so he can know exactly how much silage he has stored. A silo sold and rated as a thirty-foot silo, by King's table seldom has an actual capacity of more than twenty-four to twenty-six feet of silage.

These figures so long used, while accurate if properly understood, have not been convenient to use in determining the actual capacity of a silo. The figures in the table herewith given have been taken from the results worked out by the Nebraska Experiment Station. These have been closely checked for six years by actually weighing silage in and out of the station silos, and have been found to be very nearly correct. In using these figures it is assumed that the silage is in normal condition when put into the silo and that after allowing the silage to settle for from twelve to twenty-four hours the silo has been refilled. It is also assumed that two men are kept in the silo tramping during the filling process. The depth of the silage should be determined at the close of the final filling.

Capacity of Silos in Tons			
Depth in Feet	Diameter in Feet		Tons
10	14	18	20
10	17.4	23	38
20	45	58	91
30	80	104	168
40	119.6	156	252
50	160	213	344
Weight of Silage in Pounds per Foot at Different Depths			
Depth of Silo in Feet	Weight per Cubic Foot		Cubic Feet
10	22	22	22
15	20	20	20
20	18	18	18
25	16	16	16
30	14	14	14
40	10	10	10
50	8	8	8

It is impossible to state the weight



**T**HE large porch of this five-room bungalow type of house is inclosed with windows which are hinged in the middle and at the top, folding up toward the ceiling. The floor plan is shown on the opposite page. The front entrance is more ornamental than useful and may be omitted. This house plan and others of which it is a type are described in detail in "The Farmhouse Improved," published by the Engineering Experiment Station, Kansas Agricultural College.

cattle and sheep upon it in both wet and dry weather without trouble from bloat. Sudan grass has also been giving satisfactory results for summer and fall pasture.

A. J. Banks has been quite successful with brome grass. This is a grass which has not as a rule been found successful as far south as this county. Mr. Banks, however, has a small tract of land that has been in brome grass for ten years. It forms a fairly good sod and seems to be able to stand rather adverse conditions. This has furnished a hay crop in addition to pasture.

### Stomach Worms in Sheep

A reader who has recently started with sheep on a small scale writes that he is hearing a great deal about stomach worms. He is being told so many things about the seriousness of this trouble that he is beginning to think perhaps he has made a mistake. There are probably a good many beginners in sheep, judging from the strong demand for breeding sheep. One of the first things every beginner should learn is how to control the stomach worm. While it is a fact that sheep are subject to fewer diseases than most other farm animals, this one trouble may become serious unless the nature, life habits and history of the parasite are thoroughly understood and correct methods followed in controlling it. It is a trouble almost entirely confined to the farm flock where sheep are kept year after year on the same ground and graze over the same pastures. The worm itself is a small thread-like worm having a twisted appearance. It lives in the fourth stom-

ach and attaches itself to the walls, where it obtains nourishment by sucking the blood of its host. The worms are about the size of a thread and from three-quarters of an inch to an inch in length. The lambs in the flock are always more severely affected than older sheep. A young lamb badly infested with stomach worms will become pale, thin and weak, and may die, while older and stronger animals, although heavily infested, may remain in apparent good health. Mature sheep that have survived the effects of the worm seem to have acquired a tolerance or immunity.

In order to reduce the danger of stomach worm infestation to the minimum, the best plan is probably to combine frequent changes of pasture with medicinal treatment. If early-dropped lambs can be weaned from their mothers and placed on pastures or in fields where sheep did not run the year before, they will be practically free from danger of stomach worm infestation. For this reason in the most successful handling of a farm flock the lambs will be running in the corn fields and in other fields instead of grazing on the permanent pastures where the mature sheep are pastured year after year. If the beginner understands the danger and gets foundation stock comparatively free from stomach worms, he can avoid serious losses by applying these preventative



of a cubic foot of silage, since it increases from the top to the bottom. This must never be left out of consideration in figuring on the capacity of a silo. By referring to the table, for example, a sixteen-foot silo it will be seen that a ten-foot silo of this diameter would contain but twenty-three tons, or two and three-tenths tons to the foot. A twenty-foot silo would contain fifty-two tons. A thirty-foot silo would contain 104 tons, or forty-six tons more than the twenty-foot silo. The forty-foot silo would contain 156 tons, or fifty-two tons more than the thirty-foot silo, and the capacity of a fifty-foot silo would be 213 tons, fifty-seven tons more than the forty-foot silo. This would mean that the average weight of the silage in the sixteen-foot silo fifty feet high would be five and seven-tenths tons to the foot.

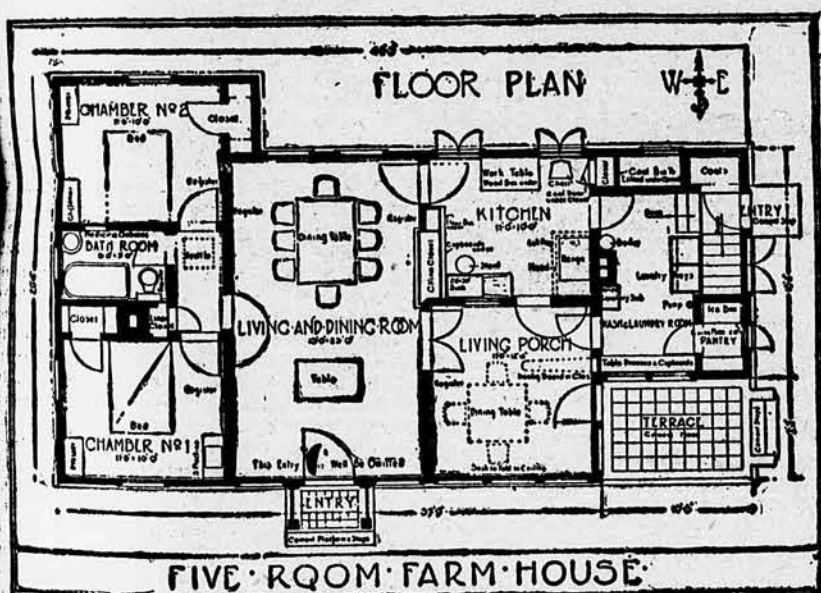
One of the tables given shows the weight of a cubic foot of silage at different depths. By using this table it is possible to figure the capacity of a foot layer in a silo at different depths. To do this, get the area of a cross section in square feet and multiply this by the weight per cubic foot at the given depth. The area of a sixteen-foot circle, for example, is approximately 201 square feet. Multiplying this by the weight of the silage to the cubic foot as given in the table will give the weight of the silage for each foot in height. For example, at a depth of twenty feet the weight of silage is twenty-nine pounds to the cubic foot. Therefore a foot of silage in a sixteen-foot silo at this depth would weigh 5,829 pounds, or two and nine-tenths tons. The weights in the table are given for each five feet and the weight at twenty feet can be used with approximately correct results up to the next figure in the table. It

forced to reject milk or the cream may be given a lower grade and consequently bring a lower price. The loss due to the lowering of the quality of the product will always be checked back to the producer.

To handle milk or cream properly in the summer time it is absolutely necessary to have some system of cooling it rapidly. Specially prepared cooling tanks can be purchased on the market. Cooling the cans by setting them in an open tank of water is slow, although this method is often practiced with a considerable degree of success where it is arranged to have fresh cold water direct from the well running into the tank constantly while the cooling is in progress. The overflow pipe must be arranged to take the warm water from the top of the tank. The quickest and most effective way of cooling milk is to use one of the milk coolers especially designed for the purpose. After it has been cooled it can then be kept cool by holding it in a tank of cold water.

Much can be accomplished in keeping milk or cream in good condition by taking every possible precaution to prevent the bacteria or organisms from getting into it. Dirt is the common source of these organisms which cause milk to spoil, and all dirt is not visible. The dust floating in the air will contaminate milk. The dirt or scurf which may be on the udder or flank of the cow carries with it innumerable organisms. Clean the udder and the flank of the cow carefully before milking and use a small-top pail. This type of pail is very effecting in keeping dirt out of the milk.

Careless handling and sterilizing of utensils is also a source of trouble. The covers of cans should be removed as soon as they come back from the factory. If they have not been cleaned properly the



FLOOR PLAN OF HOUSE SHOWN ON OPPOSITE PAGE

must also be remembered in figuring on the capacity of silos that the capacity will increase as the square of the diameter; that is, a silo twenty feet in diameter will hold four times as much as one ten feet in diameter of the same height.

#### Summer Care of Milk

Warm weather will soon be with us and it is safe to assume that thousands of dollars will be lost through careless handling of milk and milk utensils. It is easy to keep milk or cream in good condition when the weather is cold, but warm weather brings its problems in handling dairy products and many do not recognize the importance of following methods that will keep the milk and cream in good condition even when the weather is hot. The mistake most commonly made is to fail to realize that the warm weather has come and that cold weather practices can no longer be followed. During the winter season when the temperature is low various bacteria causing milk to spoil do not thrive. In warm weather they find ideal conditions. It is possible for some of the organisms in milk to double in number in an hour's time providing the milk is permitted to remain warm. Prompt and thorough cooling is the most important point in caring for the milk or cream in warm weather. If it is not cooled for properly, condenseries will be

condition should be remedied. For sterilizing purposes use steam wherever possible. In the absence of steam use boiling water and plenty of good dairy washing powder. All these points mentioned are factors in keeping milk and cream in the best of condition.

#### Experimental Steers Marketed

The forty head of two-year-old steers experimentally fed at the Kansas Experiment Station and reported on at the cattlemen's meeting have been followed to the packing house by Doctor McCampbell and Mr. Winchester. They were sold in Kansas City last week, thirty head of the lot bringing \$15.75 a hundred and ten head \$15 a hundred. Shrinking percentages and other carcass information on the different lots will be reported on later. A rather interesting point developed while the cattle were in the stock yards. It was noticed that the ten head which had been fed a full feed of silage and no grain other than a small allowance of linseed oil meal began to eat immediately after they were unloaded. The steers of the other three lots laid down to rest and did not begin to take on a fill until about noon. Cattle feeders will watch with considerable interest the results of these carcass tests, and particularly as regards the dressing percentages and the general character of the carcasses produced by the heavy silage feeding.

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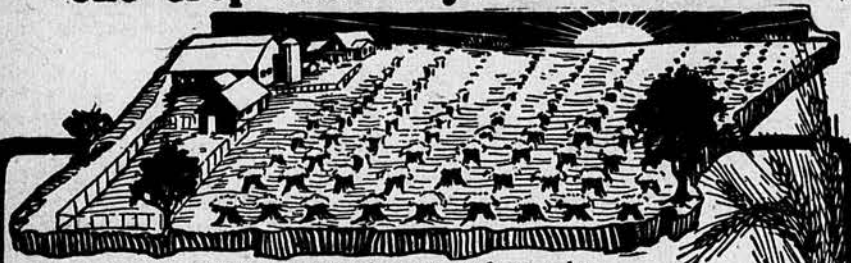
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land similar to that which through many years has averaged from 20 to 45 bushels of wheat to the acre. Hundreds of cases are on record where in Western Canada a single crop has paid the cost of land and production. The Governments of the Dominion and Provinces of Manitoba, Saskatchewan and Alberta want the farmer to prosper, and extend every possible encouragement and help to Grain Growing and Stock Raising.

Though Western Canada offers land at such low figures, the high prices of grain, cattle, sheep and hogs will remain.

Loans for the purchase of stock may be had at low interest; there are good shipping facilities; best of markets; free schools; churches; splendid climate; low taxation (none on improvements).

For particulars as to location of lands for sale, maps, illustrated literature, reduced railway rates, etc., apply to Supt. of Immigration, Ottawa, Can., or

F. H. HEWITT, 1012 Main St., Kansas City, Mo.  
Canadian Government Agent.



# Why Meat Prices Are High

**I**N A leaflet issued by the Bureau of Public Relations of the American Meat Packers' Association the following statements are made: The meat situation today is just about what Herbert Hoover and other officials of the Food Administration predicted after the armistice was signed—a world need that far exceeds the world's supply. Although there are other factors, that is the essence of our meat problem.

By consequence, high prices will continue for some months. Each day that brings peace nearer means a greater call on this country for meat. The supply of meat is dependent first of all on the supply of live stock. European herds have been reduced by the war. To that extent, world production of meat is crippled.

High prices are caused by heavy demands rather than by any control aimed to stimulate production. This has recently been illustrated clearly with respect to hogs. Many persons had maintained that the minimum price on hogs tended to keep values artificially high. When the minimum was removed, the Food Administration predicted that hog prices might go still higher. That prediction is now being verified emphatically.

Live stock on farms in the United States at the beginning of this year exceeded the number at the beginning of 1918 by 1,036,000 cattle, 4,213,000 hogs and 963,000 sheep.

But the armistice, instead of having reduced the demand for meat, has given us 200,000,000 additional persons to help feed. The hungry nations will become increasingly accessible for provisioning as shipping becomes increasingly available for food cargoes.

Great numbers of meat animals have been dressed since the first of the year. Hogs are now coming into American markets in dwindling quantities and in lesser numbers than a year ago. Hog receipts at the eleven leading markets last month were 565,000 fewer—2,550,000 as compared with 3,115,000—than in the corresponding month of 1918. The hogs received at Chicago during March were 300,000 fewer than in March, 1918, and traders estimate that the Chicago receipts during April will show a decrease of 200,000 as compared with last April.

As this is being written, April, 1919, the average price of hogs at Chicago—\$20.41 per 100 pounds—is the highest ever recorded. It has increased \$2.90 in forty-two days.

Yet pork products must form a considerable part of our exports to hungry Europe.

Statistics now available as to the effect of war on foreign herds indicate the following decreases:

COUNTRY	YEAR	No. Hogs	YEAR	No. Hogs
Italy . . . . .	1908	2,508,000	1918	1,670,000
France . . . . .	1913	7,037,000	1917	4,168,000
Germany . . . . .	1913	25,592,000	1919	8,000,000
United Kingdom . . . . .	1914	3,940,000	1918	2,448,000
Denmark . . . . .	1914	2,497,000	1918	513,000
Netherlands . . . . .	1913	1,350,000	1917	1,185,000

There were also severe cattle decreases.

Before the war England imported 75 per cent of her bacon. About half of the imported bacon came from America and the other half from Denmark and Holland. But during the war a shortage of feedstuffs left the swine herds of Denmark and Holland just sufficient for domestic supplies. These countries can not resume export until they obtain adequate feedstuffs.

The numbers of liberated peoples who were inaccessible before hostilities ceased but whom the United States now will help to feed, include, according to a very recent statement by Mr. Hoover, nearly 7,500,000 in Belgium, 20,000,000 in Poland, 13,000,000 in Czechoslovakia, 13,000,000 in Roumania, 12,000,000 or 13,000,000 in Greater Serbia and 20,000,000 in Armenia, Finland and other countries. This takes no account of food being sent into the Central Empires to avert anarchy and governmental insolvency.

Mr. Hoover estimates German shipping around 20,000,000 tons. This will gradually become available for food cargoes. As it does, a larger and larger part of the demand for food can be reached.

The brunt of meat export and production will be borne by the United States, South America and Australasia. Live stock in Argentina has not increased as

much as one could wish. Australian herds, hurt some time ago by drouth, are now being replenished. Our own live stock has not increased commensurately with foreign needs.

In countries where disorder is now raging there is a tendency for peasants not to market their products.

The whole situation for some time to come, then, probably will be one in which the demand for live stock and its products greatly exceeds the supply. This means that live stock will continue to bring high prices. Cheap bacon and cheap beef can not be made from expensive hogs and costly cattle, any more than live stock can be raised cheaply on high priced feedstuffs with expensive labor.

How keen is the foreign demand is shown by the fact that when the Austrian Food Bureau fixed maximum retail prices effective in Vienna January 1, it set first class beef as high as \$2.84 a pound.

If order comes out of the Russian chaos, the world demand will be still further augmented. Horseflesh which was selling in Moscow for half a cent a pound in 1914 is bringing \$1.69 in 1919.

Low meat prices must wait until European production is in good swing again. Meanwhile, American farmers and packers can only continue their strenuous efforts and full co-operation with governmental agencies, to keep production at the maximum and prices at the minimum possible.

### Corn Cultivation Methods

Cultivation is considered essential in corn production. The general purpose of cultivation is to promote the early growth and later development of the corn plant. The usual type of cultivation is sometimes modified to meet special conditions, such as retarding the vegetative growth of the plant by cutting the corn roots in early cultivation. The kind of cultivation will also vary to some extent to meet the requirements of different methods of planting.

According to the U. S. Department of Agriculture, approximately 100,000,000 acres of corn in the United States are annually given two or more cultivations. Some of the most successful corn growers begin their cultivation before they plant their crop. They claim that a deep cultivation of the soil at this time is of as much value as later cultivations. It causes the soil to warm more quickly, destroys early weed growth, and incorporates the vegetable matter more thoroughly into the soil.

Corn is cultivated to prevent weeds from robbing the corn of soil moisture and fertility, to put the surface in the best condition to absorb rainfall, to

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Netherlands . . . . .	1913	1,350,000	1917	1,185,000

warm the soil by drying its surface quickly, and to save moisture by checking the capillary rise to the soil surface.

Corn should be cultivated often enough to keep down the weeds and to maintain a loose soil mulch until the crop has attained its growth. To satisfy this end a greater number of cultivations will be necessary when rains at intervals of a week or so cause the surface soil to run together and crust. This crust must be broken and the soil mulch restored or excessive run-off and evaporation will soon rob the crop of much needed moisture. Promptness in restoring the soil mulch after each rain is of great importance. This work can be rapidly and less expensively performed by use of double cultivators widened, and by driving astride each alternate row, as by this practice the mulch is restored in half the time necessary to drive astride of every row.

Corn should not be cultivated so long as the soil mulch is in good condition and free of weeds. Corn should not be cultivated when the soil turns up in clods, breaking the corn roots and permitting the soil to dry out to a greater depth than it would if not cultivated.

The food substitutes that are "just as good" are rarely "as good" and never "just."—Bulletin Kansas State Board of Health.

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ADVERTISING PAGE FOR READY BARGAINS



## Permanency of Agriculture

(Continued from Page Four)

lations, costly commissions, food administrators, inspection and publicity service, while all the time prices were so fixed upon the very things farmers ought to produce as to discourage and depress the industry, rather than encourage it.

"How ridiculous it seems in face of a world need to talk about a surplus, or to so adjust prices upon the most pressing necessities as to make it so much more advantageous that a farmer will feed his wheat to his stock and eat his barley, corn and oats. Has there ever been a moment when the milk produced has been more than the nation wanted or could use? Has there ever been any good sound business sense upon our part as a nation in allowing potatoes to spoil by the millions of bushels, or in allowing the beans of 1917 to heat and sour while the cry of food conservation is made the echo of a national propaganda, and at the same time for us as a nation to buy our beans in the far away markets of Japan and Manchuria, overloading the already overtaxed transportation facilities of the world? It may be that the beans were soft and that better ones could be bought abroad. However, we had these and they were good food, the money would have been spent at home, production encouraged, and the grower not allowed to suffer a discouraging loss. Transportation facilities would have been relieved from bringing food from 7,000 miles away, when food just as good, if cared for, was right among us. Farmers have never been able to let the stuff they grow rot and buy better from the other side of the world, but have used what they had as a prudent measure of economy. Should the nation be less provident? Why do we do these things? Simply because the patient is being doctored by a physician who never studied medicine.

"The 85 per cent of our population in cities and towns in New York state, though originally from the country, have been so long out of touch with rural conditions that they do not know that the world has moved in the country as well as in the town. They cannot understand how markedly conditions economic have altered as touching the matter of the nation's food supply.

### True Patriotism

"In a republic no one can be a true patriot who does not wish his country to be strong and efficient. To make it so, each should give the country the best he has. If his education and angle of thinking enable him to see what others have not seen, and that vision has revealed to him what will be the wealth of the nation, it is due from him as a loyal citizen that he make his knowledge serve the state. The inventor is a traitor if his ingenuity is hidden in his breast, when if used it might give to the nation a device of worth in days of peace or war. If improved conditions are to come in the field of plain farming, part of the education necessary to bring these conditions to pass must come from those whose labor and education have peculiarly fitted them to impart such education."

### Silo Drain Not Needed

A correspondent living in Anderson County writes that he is planning to build a silo and has been told to put a tile drain in the floor to carry off the surplus juice from the bottom. His advisers certainly have not had the right kind of experience in handling silage. They must be going on the theory that silage should be made from very green and immature corn or cane, and this is the condition in which the crop makes the poorest kind of silage. The silage crop must be well matured or it will not be rich in nutrient material. It should only have moisture enough in it to make it pack solidly. If it is so juicy as to cause an accumulation of juice in the bottom of the silo, it is too immature and will not make good silage. There is no need whatever for putting a floor drain in the silo, because the crop should never be put in wet enough to cause surplus juice to accumulate.

It is quite customary to excavate three or four feet in building a silo, thus adding to its capacity. The foundation must of course be built down in the ground deep enough to be on absolutely solid footing and the ground inside the foundation wall might just as well be excavated and used for storage space. In some locations water may get into the underground part of such silo

from the ground outside. This will spoil the silage in the bottom part of the silo, and provision should be made to keep surface water from settling around the silo foundation in case it is excavated below the surface of the ground. A tile drain laid around the outside of the foundation wall with an outlet discharging at a lower grade will keep surface water from getting through or under the wall if this cannot be prevented by proper surface drainage.

### New Weed Pest Introduced

Stink weed, also called French weed, penny grass, and fan weed, has been introduced into Kansas. This weed not only taints milk and butter but the meat of animals which have eaten it. Mrs. E. P. Harling, who is in charge of the seed testing laboratory at the Manhattan Experiment Station, states that until lately this weed has been rather scarce in Kansas, but it is on the increase and farmers should familiarize themselves with it and endeavor to prevent it from becoming widespread. It belongs to the mustard family and in its early stages resembles common pepper grass. Like others of this family, stink weed produces large quantities of seed and the seed can live for many months in the soil. In North Dakota experiments have shown that even when buried to a depth of ten inches the seed of this plant will live more than four years, germinating readily whenever placed in the right environment. It also was found that 37 per cent of the seed of stink weed would grow after having passed through the digestive tracts of animals.

In describing the habits and appearance of the plant, Mrs. Harling states that it grows from sixteen to eighteen inches in height, sometimes without branching. The leaves clasp the stem closely, and with the exception of the first two or three leaves they do not have a leaf stalk or stem. The flowers are pure white, have four petals, and grow in a cluster like a head of oats. This raceme, as it is called, at first is about the size of a half dollar, but as the season advances it lengthens until there may be several inches between the lowest seed pod and the topmost blossom. The seed pods are flat, three-quarters of an inch wide, and have a wide wing or margin with a deep notch at the tip. The pods change to a tawny yellow or almost orange color just before ripening. This characteristic may help those unfamiliar with the plant to recognize it. One of the first steps in guarding against the introduction of stink weed, as against all noxious weeds, is to use the greatest care to sow clean seed. Many seeds offered on the market contain surprisingly large percentages of noxious weed seeds. Even chicken feed mixtures sometimes contain seeds of noxious weeds. If the plant is already found growing, it will generally be in spots and can be cleaned out by hand pulling, burning the plants as soon as they are dry enough. Where they are too widely scattered to be cleaned out in this way, they may be hoed off, and it is important to cut below the crown. Simply mowing the weed is unsuccessful, as it will immediately branch out again. Plowing under is a satisfactory method if plants can be turned under before they begin to seed.

### Kill the Rats

An enormous amount of damage is done by rats. At this season of the year they are going out from their winter quarters in search of places where they can find suitable homes for rearing their large families. Rats find ideal harboring places under the wooden floors of cribs, chicken houses, and other farm buildings. A greater use of concrete in the making of foundations and floors would greatly discourage them about the buildings.

The United States Department of Agriculture is urging that a widespread campaign be waged against the rats coming season. The use of traps and poisons is recommended and emphasis is laid on the use of traps—not a single trap. The general inclination is to use too few traps. The large wire traps are recommended. To get the best results these should be set in the barns or other places frequented by the rats and all the doors of the traps left wide open for two or three nights, changing the bait or food supplied daily so as to accustom the rats to enter the traps in search of food. After the third night close the traps, except the proper entrance. The results will be surprising.

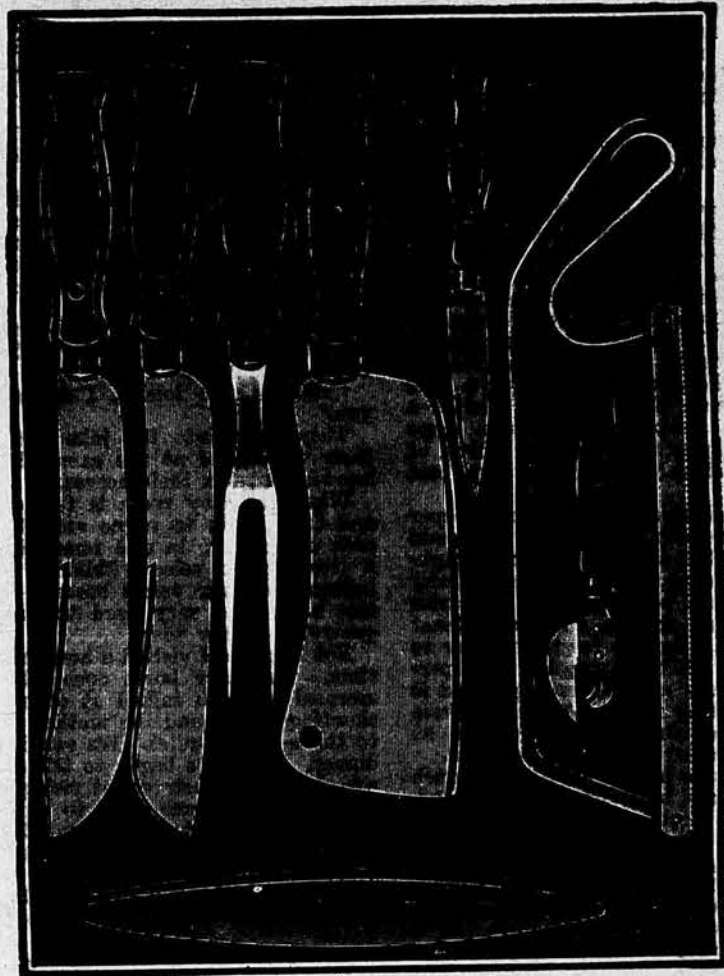
After catching a bunch of rats, traps must be cleaned and sterilized by the use of hot water. Then change the bait, always trying to use some food which the rats cannot easily get outside.

It is not safe to use such poisons as strychnine about a farm, since it is too dangerous to the poultry or other stock. There are a number of proprietary rat poisons on the market which can be used with safety. In the use of poison it is very important to mix it with some food which will attract the rats. For example, chop some bacon fat fine and mix some of the poison with it, scattering the mixture in places where it cannot easily be reached by poultry. In two or three days the rats will have cleaned up the first batch. In putting out the second batch use a different kind of bait. Try raw meat or some smoked sausage. Some of the more experienced rats which do not eat the first poisonous mixture will be tempted by the second. A continuous campaign of this kind, using both traps and poisons,

will rid the farms of the rat pest. The rat campaign, however, will not be successful unless it becomes a community affair. One man working alone cannot make much progress. He no more than makes a good start in cleaning up his own farm when a fresh supply comes in from his neighbor's. Grains and all farm produce command such high prices at the present time that it is poor business policy to permit rats to destroy large quantities. In addition they are a filthy, disease-carrying nuisance with no justifiable excuse for living.

While it is true that various factors contribute to increase or reduce the attendance at schools in given sections of the country, it is worthy of comment that in the states having a high percentage of improved roads a much larger percentage of rural students enrolled regularly attend the schools than in the states having a small percentage of improved roads.

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# THE HOME-MAKER'S FORUM

ETHEL WHIPPLE, Editor

Letters from readers are always welcome. You are urged to send in helpful suggestions, to give your experiences, or to ask questions. Address the Editor of this Department.

## The Company Dinner

**M**ANY of the pleasure in having a beautiful or a comfortable home comes from sharing it with one's friends. The truest hospitality is not burdensome, but consists in making our friends welcome and taking them into the home life rather than upsetting the usual routine to such an extent that both the guests and the family are made uncomfortable.

There is something about eating together that promotes sociability and draws people closer together than mingling in any other way. A group of people quickly get acquainted around the table. The company dinner depends more for its success on the quality than on the quantity. A well cooked and attractively served meal so planned that the different dishes combine to make a pleasing whole is more enjoyable than an abundance of heavy food. There is as much art in skillfully selecting the foods which are to be served together as in combining harmonious colors. The amount of each food served should not be so generous as to completely satisfy the appetite before the next course is reached. It is better to serve too little in one helping rather than too much. If more is desired, a second helping may be given.

Simplicity and comfort, rather than display, is the ideal to be sought. Snowy table linen—even though in these days it may be only mercerized cotton—is easily provided. During the summer it is always possible to have flowers for the table. If there is nothing else in bloom, many of the wild flowers make attractive bouquets. In winter a fern or other house plant may be used as a centerpiece, wrapping the pot in crepe paper and tying it with baby ribbon of the same shade around the top and bottom.

It is most unwise for a housekeeper who has no help to attempt elaborate service. But if there is a young daughter in the home there is no reason why she should not be taught the principles of serving so that a company dinner need not be a burden for the mother to bear alone. A boy may learn to perform this duty as well as a girl and it is a good thing for him to know these principles, as almost every man is at some time called upon to act as host.

If there is no help, a dainty cold lunch can sometimes be prepared beforehand, leaving the hostess free to visit with her friends after their arrival. When this is done, two courses may be placed on the table at once, the plate containing the second course being placed back of the plate containing the first, and it will be necessary only to remove the plate on which the first course was served when that is eaten. If there is someone to help with the serving, it is not a great deal of trouble to remove the soup plates before the meat course is brought in, taking this away before bringing in the dessert. This not only keeps the table more tidy, but allows the hot dishes to be kept hot and the cold ones cold until they are to be eaten. Serving simple course dinners occasionally plays a practical part in the education of the children of the home, as they will almost certainly be called on at some time in later life to be present at more or less formal functions. Some of the general rules for serving which should be taught to the young people are the following:

1. Fill water glasses three quarters full just before the meal is announced.
2. Warm all plates and dishes used for hot foods and chill those for cold foods.
3. Place the butter on the butter plates just before the meal is served.
4. Serve the hostess first, or the guest of honor, who is seated at the right of the host if a lady or at the left of the hostess if a man.
5. Dishes from which the guest helps himself should be passed to his left so that he can conveniently serve himself with his right hand. The dish should be

held low and near the person seated.

6. Individual helpings should be passed from the right.

7. Remove dishes containing food first, then the plates and silver of each course.

8. Remove all dishes from the right unless it necessitates reaching in front of the person.

9. Place silver in the order in which it is to be used, beginning at the outside, except the dinner knife and fork, which are placed next to the plate.

10. Knives and spoons are placed at the right, forks to the left, except the oyster fork, which is placed at the extreme right.

### Do You Hear Your Own Voice

I have formed a habit of listening to my own voice. It seems to me that many people talk too loudly and therefore expend unnecessary energy, keep their nerves at a tension and add to the noise of the world. This is especially true of children when they come into the house and start to tell a story or ask a question. They do not talk, they shout.

I have often been complimented on the quiet behavior of my energetic boys when they are in the house. I believe half of my success in this direction comes because I watch my own voice. When I hear myself talking loudly, or notice that my tones rise in protest or anger, I stop a moment and then continue in a lower tone.

If the boys come in with loud chatter and start to "tell mother all about it" in shrill voices, I say:

"You talk so loudly, I cannot hear you."

They appreciate the joke and lower their voices and at the same time unknowingly relax their nerves.

When the play room is full of boys and they begin to argue and shout at each other, I go in and remonstrate in a clear, quiet voice. Children always imitate, so their voices become quieter, too, and it is very hard to argue or quarrel in a low tone.

Not long ago I visited a home at noon-time. The door burst open, the boys stormed in, both talked at once, fairly shouting at us, and the mother shouted to them—to be quiet. We sat down to dinner. The boys began to tell of their school affairs, their voices rising higher and shriller as each tried to outdo the other. The grandmother shouted to me, "This is what we always have at noon. I can hardly hear it." And the mother called above the din, "Keep still, boys, I tell you; I can hardly make myself heard."

At times I am tired and nervous and this condition is very apt to lead to nagging. But when my voice rises to that whining, tired, nagging tone, my brain automatically clicks a warning and I stop, draw a long breath and force myself to talk softly. A low, sweet tone makes one feel more amiable at once, even if it is camouflage.

I do not think it is necessary to wake the echoes even when I call my boys in from play.

I was amused lately when we moved into a new neighborhood to hear the little boy next door say, "She don't holler to her boys, she just whispers."

I think this matter of tones and voices is one of the "little things" that help in our big work of keeping a pleasant, harmonious home.—SARAH ANN GREEN in American Motherhood.

### Care of Porch Furniture

There is no getting away from the fact that our climate in summer is a tropical one. Our houses must, however, be adapted to winter conditions as well, so we cannot, like the Japanese, have light weight partitions and walls that may be rolled back at will permitting us to live out of doors. The nearest approach to this ideal summer condition is found in a porch shaded by vines and furnished with comfortable chairs, rustic seats or porch swings and perhaps a small table for sewing or magazines. Such a porch is likely to be the most popular part of the house during the summer months. The sewing and mending may be done in the afternoons, peas may be shelled or other vegetables prepared for cooking here as well as indoors, the baby's buggy may be rolled out while he takes his nap or amuses himself by watching the flowers and trees and vines, and the few minutes that even the busiest housewife or farmer should have for reading or rest may be pleasantly spent in the out-of-door air.

It should be remembered that porch furniture is subjected to out-of-door weather conditions. That means it should be protected by a good coat of paint every spring. Otherwise it cannot be expected to look clean and neat or last as long as it should.

An enamel especially prepared for porch furniture gives the best results. It is designed to meet all the weather and wear conditions to which outdoor furniture is exposed, at the same time producing a hard, smooth surface that will not soften or become sticky, thus protecting the clothing of those enjoying the open air.

In applying porch chair enamel, care should be taken to brush it out well so that an even coating may be produced. Where the enamel is applied too freely it is apt to sag or form blisters, thus retarding the drying in such places, and will, in all probability, stain the clothing of the one sitting on the chair, even though the chair is dry and hard everywhere else.

### Spirea Bushes from Cuttings

"Surely nothing could be more beautiful than the spirea this year!" exclaimed the flower lover as her car sped past a house surrounded by the snowy bushes, then another with a spreading bush in the angle formed by an L, and a spirea hedge by the roadside. "It is too bad the blossom has no perfume. That is the only thing it lacks. Even after the flowers are gone the bush itself is pretty. And it is so easily grown, too. I got mine several years ago and all I have ever done to it is to water it and hoe around it occasionally."

The woman who sat beside her smiled

a little at her enthusiasm. "Did you know you could propagate them by cuttings?" she asked. "I had only a small bush two years ago, but it was so beautiful that I cut off a spray and took it to the church. After the service was over the minister's wife said to me, 'Now you take that home and put it into the ground.' I did so, laying it down and covering all but a little of the tip, and it lived and grew."

"Oh, can you do that?" asked her friend eagerly. "Then I can start a whole hedge from my bush!"

### Aphids or Plant Lice

On geraniums, carnations, chrysanthemums, roses, etc., small, greenish, winged and wingless insects about one-sixteenth to one-eighth inch in length will often be found in large numbers. They frequently collect in masses and almost cover portions of the plant. These may be controlled by spraying the plants with a 40 per cent nicotine sulphate solution, such as "Black Leaf 40" diluted at the rate of one part to a thousand parts of water, with a quarter pound of soap dissolved in each six gallons of the liquid to increase the adhesiveness and to make it spread better. The solution must be sprayed or sprinkled over the plants so that they are wet with it. A strong soap suds made by dissolving one pound of common laundry soap to six gallons of soft water also is a cheap and effective remedy against many of these lice if the plant is not too tender for the suds wash. Soapy water in which clothes have been washed may be used. It will be necessary to hit the insect with this spray in order to kill it.

### Fruits That Do Not Jell

The juice from certain fruits, such as grapes, apples, crabapples, oranges, and currants, is better suited for making a natural fruit jelly than juices from other fruits. The juices from these fruits contain the properties necessary for jelly making. The best fruits for jelly making contain both pectin and acid. Pectin, the fundamental jelly-making substance, does not exist in some fruits in sufficient amount to make jelly without the addition of pectin from some other source. The peach, strawberry and cherry are examples of fruits which contain acid but are lacking in

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pectin. Pears and quinces contain pectin, but are deficient in acid. If the missing property be added to each of these fruits, a jelly with the color and flavor of the fruit selected can be made.

#### Apple Pectin

Apple pectin may be extracted from apple pulp or skins and cores, to be added to such fruits as strawberries or cherries, if it is desired to use them for jelly. Only sound fruit should be used. To one pound of the apple pulp add the juice of one lemon and four pounds of water—about two quarts. Boil for one-half to three-fourths hour, press the juice through a cloth bag, then allow this juice to drain without pressure through a heavy flannel or haircloth jelly bag. The juice when cold should be tested with alcohol or epsom salts to determine the proportion of sugar to add to a volume of juice. If not wanted for immediate use, this pectin can be bottled, sterilized for fifteen minutes in a hot water bath at boiling and kept until needed for jelly making.

#### Orange Pectin

Orange pectin is extracted by cutting

### FASHION DEPARTMENT

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2795

**For the Growing Girl.**  
No. 2795—Here is a splendid model for lawn, organdy, dimity, nainsook, taffeta, or satin. The tucks on the sleeve may be omitted, and the skirt may be finished with cut the tunic. The pattern is cut in three sizes: 12, 14 and 16 years. Size 14 will require 4½ yards of 36-inch material. A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps. Address Fashion Department, Kansas Farmer.



2771

**A Pretty Frock.**  
No. 2771—This style is nice for batiste, lawn, voile, silk, Swiss, or lawn. The bolero sleeve is omitted, and one may have the pattern in wrist length, or short and flowing, and 12 years. Size 10 requires 3½ yards of 36-inch material for the dress, and 1½ yards for the bolero. A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps. Address Fashion Department, Kansas Farmer.

or scraping the yellow rind from the peel of the orange, the white portion remaining being passed through the food chopper and weighed. For each pound of this prepared peel add two pounds—one quart—of water and four tablespoonfuls of lemon juice, mix thoroughly and allow to stand fifteen minutes. Then add two pounds water, boil ten minutes and let stand over night. Next morning boil ten minutes, allow to cool, press to remove juice, and then drain juice through a flannel bag. If not desired for immediate use, bottle and sterilize as for apple pectin.

#### Strawberry Jelly

To make strawberry jelly, mix one-half pint concentrated orange or apple pectin and one-half pint of strawberry juice, bring to a boil and add one-half pound of sugar. Continue boiling until the jelling point is reached. Pour immediately into hot sterilized jelly glasses and skim. When cold, pour hot paraffin over the jelly.

#### Mint Jelly

Bring one pint of concentrated orange or apple pectin juice to boiling, add one pound of sugar and boil rapidly until the jelling point is reached. At this point add two drops of green vegetable coloring matter and two drops of oil of peppermint. Stir thoroughly and pour while hot into clean, sterilized jelly glasses. After a few moments the scum which rises to the top may be removed from the jelly easily with a spoon. When cold, cover with melted paraffin.

These recipes are taken from a bulletin of the United States Department of Agriculture, entitled "Home Canning of Fruits and Vegetables."

### A "Saucy" Query

"What do you mean," demands a letter just received, "by speaking of a 'sauce' in connection with meat or vegetable dishes? A recipe recently printed in the Home Makers' Forum, for instance, asks the reader to 'make a sauce with butter, flour, salt, pepper and milk.' Sauce to us has always meant stewed or preserved fruit, and while its meaning is sometimes stretched to include 'garden sass,' it puzzles us a little to see how anything even remotely resembling any kind of sauce could be made from butter, flour and milk seasoned with salt and pepper."

We suspect that our correspondent is "making foolishness" of us, but it may not be out of place to call attention to the fact that the general meaning of the word "sauce" is given as "a condiment or composition of condiments and appetizing ingredients eaten with food as a relish." In fact it is because fruit is usually eaten with bread or other food that it has come to be spoken of, in the United States, as sauce; and vegetables are sometimes referred to as garden sauce because they are usually eaten with meat. A dressing for meat, fish or puddings made by thickening fruit juice or tomato juice or milk with flour or corn starch and seasoning with salt, pepper and butter is quite properly called a sauce. This may be a white sauce made from milk, a hard sauce for puddings, made without liquids, or if butter or other fat used is browned before being combined with milk or water and thickened, as in the case of gravy made from a roast, it becomes a brown sauce.

### Egg Sandwiches

Hard boiled eggs and mayonnaise or other salad dressing are the ingredients required to make an egg sandwich that we think you will like. Remove the yolks and mash them thoroughly. Add mustard, salt and pepper to taste and combine with enough mayonnaise to make of proper consistency to spread. Slice the whites very thin. Have bread cut thin and spread one slice with yolk mixture. Add a few slices of the whites and place over it the other slice of bread which has been thinly buttered.

### Cereal Pudding

¾ cups left-over cereal  
¾ cup apple sauce  
1 apple  
1 tablespoon sugar  
1 tablespoon butter  
2 tablespoons bread crumbs

Put a layer of cereal in the bottom of a buttered baking dish, then a layer of apples or sauce, then sugar, if the sauce has not been sweetened. Then put in another layer of cereal and cover with buttered crumbs. Bake thirty minutes if it has apple sauce in it, or one hour if raw apples are used. Serve with cream.—Ninety Tested, Palatable and Economic Recipes, Teachers' College, Columbia University.

### The Woman's Way

A man can build a mansion  
And furnish it throughout;  
A man can build a palace  
With lofty walls and stout;  
A man can build a temple  
With high and spacious dome;  
But no man in the world can build  
That precious thing called home.

It is a happy faculty  
Of woman, far and wide,  
To turn a cot or palace  
Into something else beside  
Where brothers, sons and husbands tired  
With willing footsteps come;  
A place of rest where love abounds,  
A perfect kingdom, home.

—Selected.

The most delicious strawberry pie you ever ate can be made by laying the fresh berries in a previously baked crust and covering them with whipped cream sweetened to taste.

A good way to handle the shelves in the kitchen and pantry is to paint or enamel them. Painted shelves can be wiped with a damp cloth every day if need be. Shelves covered with paper are less apt to be cleaned as frequently as is needed, and are always a bid for dust and vermin.

### Kansas Fairs in 1919

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

Kansas State Fair—A. L. Sponsler, secretary, Hutchinson; September 13-20.  
Kansas Free Fair Association—Phil Eastman, secretary, Topeka; September 8-13.  
International Wheat Show—E. F. McIntyre, general manager, Wichita; September 29-October 11.  
Allen County Agricultural Society—Dr. F. S. Beattie, secretary, Iola; September 2-5.  
Allen County-Moran Agricultural Fair Association—E. N. McCormack, secretary, Moran; September 3-5.  
Barton County Fair Association—Porter Young, secretary, Great Bend; September 30-October 3.  
Bourbon County Fair Association—W. A. Stroud, secretary, Uniontown; September 9-12.  
Brown County-Hiawatha Fair Association—J. D. Weltmer, secretary, Hiawatha; August 26-29.  
Clay County Fair Association—O. B. Burris, secretary, Clay Center; September 1-5.  
Cloud County Fair Association—W. H. Danenbarger, secretary, Concordia; August 26-29.  
Coffey County Agricultural Fair Association—C. T. Sherwood, secretary, Burlington; October 5-10.  
Comanche County Agricultural Fair Association—A. L. Beeley, secretary, Coldwater; September 10-13.  
Cowley County-Eastern Cowley County Fair Association—W. A. Bowden, secretary, Burden; September 3-5.  
Dickinson County Fair Association—T. R.

Conklin, president, Abilene; September 16-19.  
Douglas County Fair and Agricultural Society—W. E. Spaulding, secretary, Lawrence.  
Ellsworth County Agricultural and Fair Association—W. Clyde Wolfe, secretary, Ellsworth; September 2-5.  
Ellsworth County—Wilson Co-operative Fair Association—C. A. Kyner, secretary, Wilton, September 23-26.  
Franklin County Agricultural Society—L. C. Jones, secretary, Ottawa; September 23-26.  
Franklin County—Lane Agricultural Fair Association—Floyd B. Martin, secretary, Lane; September 5-8.  
Gray County Fair Association—C. C. Isely, secretary, Cimarron; September 30-October 3.  
Greenwood County Fair Association—William Bays, secretary, Eureka; August 26-29.  
Harper County—The Anthony Fair Association—L. G. Jennings, secretary, Anthony; August 12-15.  
Haskell County Fair Association—Frank McCoy, secretary, Sublette; about September 15.  
Jefferson County—Valley Falls Fair and Stock Show—V. P. Murray, secretary, Valley Falls; September 2-5.  
Labette County Fair Association—Clarence Montgomery, secretary, Oswego; September 24-27.  
Lincoln County—Sylvan Grove Fair and Agricultural Association—Glenn C. Calene, secretary, Sylvan Grove; September 2-5.  
Lincoln County Agricultural and Fair Association—Ed M. Pepper, secretary, Lincoln; September 9-12.  
Linn County Fair Association—C. A. McMullen, secretary, Mound City.  
Marshall County Stock Show and Fair Association—J. N. Wanamaker, secretary, Blue Rapids; October 7-10.  
Meade County Fair Association—Frank Fuhr, secretary, Meade; September 2-5.  
Mitchell County Fair Association—W. S. Gabel, secretary, Beloit; September 30-October 4.  
Montgomery County Fair Association—Elliott Irvin, president, Coffeyville; September 16-20.  
Morris County Fair Association—H. A. Clyborne, secretary, Council Grove; October 7-10.  
Nemaha Fair Association—J. P. Hielzer, secretary, Seneca; September 2-5.  
Neosho County Agricultural Society—Geo. K. Bideau, secretary, Chanute; September 29-October 4.  
Norton County Agricultural Association—A. J. Johnson, secretary, Norton; August 26-29.  
Pawnee County Agricultural Association—H. M. Lawton, secretary, Larned; September 24-26.  
Phillips County—Four-County Fair Association—Abram Troup, secretary, Logan; September 9-12.  
Pottawatomie County—Onaga Stock Show and Carnival—C. Haughawout, secretary, Onaga; September 24-26.  
Pratt County Fair Association—W. O. Humphrey, secretary, Pratt.  
Republic County Agricultural Association—Dr. W. R. Barnard, secretary, Belleville; August 19-22.  
Rooks County Fair Association—F. M. Smith, secretary, Stockton; September 2-5.  
Russell County Fair Association—H. A. Dawson, secretary, Russell; September 30-October 3.  
Smith County Fair Association—J. M. Davis, secretary, Smith Center; September 2-5.  
Trego County Fair Association—S. J. Straw, secretary, Wakeeney; September 9-12.  
Wilson County Fair Association—Ed Chapman, secretary, Fredonia; August 18-23.

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## Classified Advertising

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

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

### AGENTS WANTED

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

### SEEDS

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

### MISCELLANEOUS.

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

**FOR SALE—THRESHING MACHINE, Rumely Oil Pull engine and Red River separator, good shape and cheap. \$1,500. C. B. Barker, Linwood, Kansas.**

**THRESHING OUTFIT FOR SALE cheap. Case 50-horse engine, 30-inch Buffalo-Pitts separator, tank, etc.; six-bottom plow; all first class condition. Write or come and see. Prices right. Carl Miller, Belvue, Kansas.**

**CORN HARVESTER—ONE-MAN, ONE-horse, one-row, self-gathering. Equal to a corn binder. Sold to farmers for twenty-three years. Only \$25, with fodder binder. Free catalog showing pictures of harvester. Process Corn Harvester Co., Salina, Kan.**

### CATTLE.

**HIGH GRADE HOLSTEIN BULL CALVES, one month old, 15-16ths to 31-32ds pure, well marked, from bulls of A. R. O. breeding, \$22.50. Edward M. Gregory, Reading, Kan.**

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

### REAL ESTATE.

**640-ACRE STOCK AND GRAIN HOMESTEADS. Duff, Casper, Wyoming.**

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

**FOR SALE—IMPROVED EIGHTY ACRES of land near Purcell, Doniphan County, Kansas. Address F. L. Schneider, Box 464, Albuquerque, New Mexico.**

### FARMS WANTED.

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

### TRACTORS.

**FOR SALE—RUMELY IDEALPULL tractor, 12-24 h. p., three 14-inch bottom plows. Good condition. Sold part of farm. Cash or live stock. Clyde Hawkins, Moran, Kansas.**

### THE STRAY LIST.

**TAKEN UP ON THE 21ST DAY OF MAY, 1919, by E. E. Swartz of White Church, Wyandotte County, Kansas, one bay mare, 16 hands high, no marks or brands. William Beggs, County Clerk, Wyandotte County.**

**TAKEN UP—BY J. A. ROBERTSON, OF Rago, Kingman County, Kansas, on the 24th day of April, 1919, one heifer, color red, weight 700 lbs., letter "V" on right hip, both ears nipped. Appraised at \$55. Geo. Howe, County Clerk.**

**TAKEN UP ON THE 14TH DAY OF MAY, 1919, by Ray Roberson of Route 1, Crestline, Shawnee Township, Cherokee County, Kansas, one red sorrel mare 16 hands high, weight 1,200 pounds, small curb inside left front ankle. Appraised at \$135. Anna Masterson, County Clerk.**

**TAKEN UP—BY WM. LUCAS OF HOLcomb, Finney County, Kansas, on the first day of May, 1918, one gray horse, weight 1,000 pounds; also one gray mare, weight 1,000 pounds. Each appraised at \$75. F. H. Laberteaux, County Clerk.**

### Real Estate For Sale

#### HOME FARM, 320 ACRES

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**PURE-BRED WHITE WYANDOTTE eggs—Fifteen, \$1.25; 100, \$6. Effie Acheson, Falco, Kansas.**

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Sheep restore fertility to neglected farms while making a profit for their owners from the sale of wool, lambs and meat.

## HELPFUL POULTRY HINTS

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

### Farm Women Culled Poultry Flocks

**W**HILE thousands of women were sewing and knitting for the Red Cross and the land army of America was helping the farmers, a volunteer army of extermination was raised in Missouri, the object being to rid the state of the non-producing hen. This army, captained by the home demonstration agents of the Missouri College of Agriculture, declared war last August, and in two months' time the victory had been won. In the counties employing home demonstration agents, every community had been reached with a culling demonstration to search out the non-producers.

Excellent work was done by these volunteers. Demonstrations of chicken canning either followed or preceded the culling demonstrations and those who preferred to can rather than sell could do so.

Owing to the influenza epidemic it was impossible to get reports from all co-operators, but from the work that came directly from the efforts of the twenty-seven home demonstration agents the reports show a total of 256,234 birds examined with 100,135 marked for sale or culling, resulting in a saving of feed to the value of \$79,644.

In many cases the old hens were given every chance to defend themselves, as was the case in Sullivan County where one woman culled 71 hens, kept them for a week, and got one egg in return for their feed. From Montgomery County comes the report of a woman who culled 86 hens from a flock of 124, kept them for a week and never got a single egg.

Occasionally a man joined this group of women in eliminating the non-producing hen. Charles Overfield of Butler County gave ten culling demonstrations, interesting 3,536 in the work. He culled his own flock of 300 White Leghorns, keeping 60 of the lot, and the egg production remained the same. One Livingston County woman, who had previously learned to cull, read an advertisement of pure-bred Plymouth Rock hens for sale. On inspecting them she readily recognized them as culls.

The poultry specialists and home demonstration agents estimate that one more season of culling will rid the farm flocks of this useless expense, the lazy hen.

#### Cause of Limberneck

A reader asks for a remedy for limberneck. This disease is usually caused by fowls eating decayed meat full of maggots. Some say it is also a result of ptomaine poisoning. The remedy is turpentine, and the following is a good treatment: Mix a tablespoonful of turpentine in an equal amount of warm water and pour into the crop. Follow by filling the crop with warm water, and then, holding the fowl by the feet, gently work out the entire contents of the crop. When thoroughly cleansed, give a tablespoonful of castor oil and allow the fowl to remain quiet by itself until recovered. Of course it is obvious that unless the source of the trouble is removed, the fowls will eat the putrid meat and become ill again, therefore a careful inspection of the surroundings should be made to see that no dead and decaying animals are lying around as a breeding place for maggots.

#### Weight of Eggs

Hens' eggs vary in weight from 1 1/2 to 2 1/2 ounces, and some specimens have been exhibited weighing over 4 ounces, but the average weight is about 1 1/2 ounces, which takes nine to make a pound. Justice at once says that eggs ought to be sold by weight, for it is manifestly unjust to the breeder of large-laying fowls to be compelled to sell such eggs at the same price as small eggs are sold for. But the custom of selling eggs by the dozen has prevailed so long that it would be a very hard matter to change it. Of course, utility would say, sell them by the dozen, for it is much less trouble and bother than to sell them by weight. To sell eggs by weight would entail on the storekeeper selling by retail a little

extra time, but not enough to counteract the injustice of the method of selling by the dozen. During warm weather the storekeepers are obliged to candle all the eggs they buy and sell, and it would not be as much trouble to weigh them as it is to candle them.

The Iowa legislature has passed a law compelling everyone to sell eggs by weight, and it may come to that in Kansas before long. At present there is no inducement to breeders of the large egg laying strains, but rather a premium offered for the small egg producers. It undoubtedly takes more feed to produce a large egg than it does to produce a small one, and the provider of the former ought to be paid accordingly. We have often noticed the injustice of selling eggs by the dozen. A farmer comes into a store with a basket of large eggs and another comes in with a basket of small eggs. Selling by the dozen, the basket of small eggs brings more money.

#### Government Whitewash

The government formula for whitewash, which has been asked for by several readers, is as follows:

Take half a bushel of unslaked lime, slake it in warm water, keeping it covered during the process to keep in the steam. Strain afterward through a fine sieve or coarse loose cloth. Add a peck of salt previously well dissolved in warm water, three pounds of ground rice boiled to a thin paste and stirred into the lime boiling hot. Half a pound of Spanish whiting and a pound of glue which has previously been dissolved over a slow fire. Then add five gallons of hot water to this mixture, stir well and let it stand for a few days, keeping it covered from all dust and dirt. It should be applied hot. One pint of this whitewash will cover a square yard, if properly applied. Small brushes are best. If a color is wanted add Spanish brown, yellow ochre or red, until the desired shade is found. Used on fences as well as buildings.

#### Sell, Pen or Cook Roosters

As soon as the last eggs are set, the usefulness of the roosters has ceased and they should be disposed of. On most farms the best plan is to sell all roosters as soon as the breeding season has passed. If it is desired to save especially valuable males for next year's breeding they should be separated from the hens and kept enclosed throughout the summer. Several roosters may be put in the same pen without serious trouble. Unless the rooster is unusually good he should not be saved, as cockerels give better fertility and better breeding service than old males, and the feed bill for keeping the old birds will go a long way toward buying a vigorous cockerel this fall.

The high mortality common in young turkeys is usually due to exposure, dampness, improper feeding, close confinement, lice, predatory animals, or weakness in the parent stock, says the United States Department of Agriculture farmers' bulletin 791, entitled "Turkey Raising." The bulletin deals with such subjects as profits from turkey raising, varieties, management of breeding stock, incubation, brooding, fattening for market, caponizing, marketing, and diseases.

Straw and similar material gathers moisture, and when the litter becomes damp enough to be limp it is practically useless for fowls to scratch in for their grain feed. Scratching litter in the poultry house is essential, but it should be cleaned out and renewed frequently.

There are many advantages to a single pitch roof on the poultry house. This type is most easily built. It gives the highest vertical front exposed to the sun's rays and throws all of the rain water to the rear.

The poultry building should not be so wide that the rays of the sun can not reach the back of the interior of the house. Otherwise it will be damp. Fourteen feet is a convenient width.



# GENERAL FARM ITEMS

Plumbing is becoming a necessity in both city and country homes, not only for comfort and convenience but even more for health and cleanliness. It also provides for the proper disposal of the wastes of the household, which should by no means be neglected.

## Dairymen Boost Business

The Dairymen's League of New York is putting out a poster: "We sell butter, a dairy product, healthful and economical. Our community is dependent upon the dairy industry. Support the industry that supports you. There is no substitute for butter."

Every member is also asked to sign a loyalty pledge to prevent the practice of selling butter and buying substitutes for their own family use.

C. J. Hines of Springfield Center, N. Y., learned that in his township, although entirely agricultural, fifty thousand pounds of oleomargarine were sold last year.

## Spray for Cabbage Worms

Cabbage plants are often seriously injured and the crop entirely destroyed by a number of cabbage worms. Some of these are the common cabbage worm, the cabbage looper, the cabbage plutella, and cutworms. The adults of these are moths or butterflies, which lay their eggs on the cabbage leaves. These eggs hatch in a few days and the young worms feed on the foliage. They grow rapidly and by the time the cabbage is beginning to head they may be very numerous. It is then that they do the most damage by causing imperfect heads or heads which will not keep.

These worms may be killed by spraying the cabbage plants with an arsenical poison. To prepare this poison use one-half ounce of the powdered arsenate of lead or one ounce of the paste, an inch cube of soap, and one gallon of water. Spray on the foliage so as to get all parts of the plant protected. Apply as soon as the worms are noticed doing damage or shortly after the plants begin to grow well. Several applications at intervals of ten days or two weeks may be necessary to control the pests.

Dusting may be substituted for spraying if desired. Use one part of the powdered poison to four parts of air-slaked

lime or flour. Mix thoroughly and dust on the plants from a porous bag, or a can with nail holes in the top. Apply thinly while the dew is on the plants.

Since the cabbage head grows from the inside, there is absolutely no danger from poisoning by eating the cabbage. If outer leaves are removed (and they always are) spraying is safe up until time to harvest the crop. Spray early in the season and it will not be necessary to spray when the heads are forming.

## Pure-Bred Bull Pays for Self

Two years ago W. W. Martin of Ripley County, Missouri, bought a pure-bred Hereford bull and three Hereford cows. Recently he sold the calves from common Ozark cows sired by the pure-bred bull, for \$16.72 more per head than he received for his steers of the same age sired by a scrub bull. Mr. Martin figures that at this rate the pure-bred bull was paid for the first year on his farm.

Mr. Martin was one of the first in his county to use a pure-bred bull. At a meeting held on his farm recently inquiries for pure-bred bulls were numerous and many will be bought before fall. Farmers in that section no longer doubt the value of a pure-bred sire.

## Cultivator Demonstration

A motor cultivator demonstration will be held on the agronomy farm of the agricultural college on Tuesday, June 3, under direction of the department of farm engineering. Between thirty and forty acres of corn will be ready for cultivation the first time, and an excellent opportunity will be given for seeing just what mechanical cultivation can do for such conditions. Many machinery companies will participate.

There will be no competitions. The companies are entering their machines simply to show how they will operate under Kansas conditions in Kansas fields. It is expected that a large number of manufacturers, dealers and farmers will be present.

Some people are so busy figuring how long it will take the clock of the universe to run down that they forget to wind their own lives. —The Square Deal.

## Cream Separator a Dairy Necessity

THE present day dairyman cannot afford to be without a cream separator. The separation of cream from milk by centrifugal force is the most perfect separation known, provided, of course, the cream separator is doing its work as it will if properly operated. Cream separators are not as expensive as they once were, although I have never seen the time when a good cream separator was not worth all it cost.

The sale of cream to the creameries instead of milk, has worked wonders for the dairy farmer. It has enabled him to milk cows with a profit, whereas in the case of selling whole milk the same dairy operations would have been unprofitable. Whole milk must be delivered daily in the summer time and at least three times a week in winter. This saving of labor brought about by the cream separator is its most important economy.

The second big thing in favor of the separator is the superior quality of skim milk for feeding as compared with the skim milk returned by creameries. The warm skim milk from the separator not only has greater feeding value than that returned from the creamery, but in feeding this milk the farmer does not place his calves and pigs at the mercy of those diseases that may be spread by means of skim milk from unknown sources. Hand separator milk can be fed in the same condition day after day, and this is advantageous to young pigs and calves. Creamery skim milk cannot be fed in a uniform condition.

The cream separator has proven a great boon to the home butter-maker. First, because with a separator more butter can be made from a given quantity of milk than if the cream is separated from the milk by some other means. The cream separator saves labor in skimming over any other method. The cream from a separator can be made uniform and consequently more thoroughly ripened before churning. Another point is that the quality of butter produced from the cream of the hand separator is likely to be superior to that produced from cream skimmed by hand. The centrifugal cream separator is a remarkable purifier. No foreign substance contained in the milk will be delivered by the separator into the cream.

If you are engaged in selling cream or making butter for the market, you cannot afford to be without a good centrifugal cream separator. It would be better and more profitable to milk one cow less than to do without a separator. That is to say that nine cows with a separator will yield a greater profit than ten cows without a separator.



## Economy Insures Progress

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

This reserve has been invested in the construction of telephone property for the benefit of telephone users. Neither interest nor dividends are paid on this money. This fund works in extending and improving telephone service without cost to the public.

Like a landlord whose careful management has given

added comforts and conveniences to tenants without raising the rent, the great efficiency savings of the Bell System have been used to build a better and broader service. Rate increases are, of course, necessary but because of this economy the Bell System is not compelled to make such rate increases as have been made by other utilities and in other lines of business.

Linking the crude telephone of forty years ago to the Bell System of today is a series of great accomplishments, both in the art and economy of telephone operation.



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Oct. 20—P. M. Anderson, Holt, Mo.

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

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

Oct. 24—Dubauch Bros., Wathena, Kan.

**Durocs.**

Aug. 13—F. J. Moser, Sabetha, Kan.

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

The Central Kansas Jersey Cattle Club  
sale held at White City, Kansas, May 31,  
resulted in the disposal of fifty head of  
cows and heifers at an average of \$156.10  
per head. The top price of \$300 was paid  
for No. 37, going to J. H. Pierce, Junction  
City, Kansas. While no sensational prices  
figured in the auction they were very fair  
and yet low enough to permit of liberal in-  
vestments in dairy breeding stock. Several  
choice cows were sold with good records  
and a splendid lot of young heifers with

popular breeding were competed for at only  
reasonably low prices. The offering was  
presented in splendid breeding condition  
and should have sold for a little more  
money to insure a profit to the producer.

Dr. J. H. Lomax, of Leona, Kansas, owner  
of one of the profitable and producing  
herds of Jerseys in Kansas, has announced  
June 24, 1919, for his annual Jersey sale at  
the farm. This herd has an enviable reputa-  
tion for being one of the best herds in the  
West. The quality is extra good, heavy  
milking cows and many promising young  
heifers will be offered. Most of the cows  
will be bred to as imported bull and several  
heifers will be sired by imported bulls. The  
offering is one of the best bred lots ever  
sold from the Lomax farm and probably  
the best lot of real high class cows to go  
in any sale this year.

J. O. Southard, the well known Hereford  
breeder of Comiskey, Kansas, has just re-  
turned from a three months trip visiting  
the Hereford cattle in England and Scot-  
land. He is writing a review of his trip  
entitled "Monarch Herefords," and has an-  
nounced July 28 and 29 for a reduction sale  
of cattle. Two hundred head will be of-  
fered to the public, consisting of large ma-  
ture cows with calves at foot and large  
two-year-old heifers that are bred to drop  
calves in the spring. Mr. Southard now has  
more than 600 head of registered Hereford  
cattle in his pastures, and Comiskey, Kan-  
sas, is becoming known as the Hereford  
center of Kansas.

J. E. Weller, of Fauett, Missouri, owner  
of one of the good Duroc herds of Missouri,  
reports having some of the most profitable  
sales that he has enjoyed in years. He has  
raised 125 spring pigs by the following herds  
boars: Jamboree by King Crimmon by Crim-  
mon Model, bred by O. S. West, the breeder  
of Old Crimmon Wonder; Pathfinder Col. by  
Pathfinder, and Model Ally Jr. by Model  
Ally, the grand champion Duroc boar at  
the Topeka Free Fair, 1918.

Adams & Mason, of Gypsum, Kansas, have  
announced October 17 for their annual fall  
sale of big-type Poland Chinas. On this  
date they will offer twenty-five spring boars  
and twenty-five spring gilts sired by the  
following herd boars and out of the herd  
sows in their herd. Herd boars: Wonder  
Timm 289481 by Mellow Bob, Wonder  
Timm 289777 by Big Timm, Big Oakland  
328245 by Wonder Buster, Big Oakland  
328445 by Oakland Giant. Herd sows sired  
by Big Wonder, Gerstdale Jones, Big Bob  
Timm, Mellow Bob, Caldwell's Big Bob,  
Giant Bob, Wonder Timm, The Giant,  
Smooth Big Bone A, Model Big Orphan,  
Bone Leader, McGath's Big Timm,  
Bridges' Bob Wonder, Blue Valley Timm,  
Long Prospect Again, Smooth Bob, Was-  
ner's Timm, Big Hadley Jr. Some 1919  
spring litters by other noted sires such as  
Liberator, Giant Jones, Big Bone Leader,  
Buster's Model, Mable's Jumbo, Col. Jack,  
Buster Over, and others. This firm owns  
some of the best individual herd boars and  
herd sows that can be found on any farm  
in Kansas. They will exhibit this year at  
the Topeka Free Fair and Kansas State Fair  
a complete herd of Poland Chinas.



SHE'S THE  
MONEY COW

## BUY JERSEYS

SHE'S THE  
MONEY COW

FIFTY HEAD -- PURE BRED JERSEYS -- FIFTY HEAD

Owned by J. H. Lomax  
Leona, Kansas  
Tuesday, June 24

At the farm, on Grand Island  
Railroad, 28 miles from St. Jo-  
seph, Mo., seven miles from Den-  
ton on Rock Island.



Popular Sires and  
Best Blood Lines

This is one of the best herds  
in the West, and the quality is  
good. Heavy milking cows and  
many promising young things.

Write today for catalog,  
mailed only on request, to

B.C. Settles, Sales Mgr.  
Palmyra, Mo.

J. H. LOMAX, Leona, Kansas

Parties from Topeka or Holton stop at Denton, Kansas. Free conveyance  
to the farm. Rock Island train leaves Topeka at 7:35 a. m.  
AUCTIONEERS—COL. D. M. PERRY, COL. FOSTER.

## POLAND CHINAS



Faulkner's Famous Spotted Polands  
The World's Greatest Pork Hog

Now booking orders for spring pigs. Shipment when weaned.  
Pairs or trios, no kin.

H. L. FAULKNER, Box K, Jamesport, Missouri

## ERHART'S POLAND CHINAS

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

A. J. ERHART & SONS  
NESS CITY, KANSAS

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

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

## LANGFORD'S SPOTTED POLANDS

Bred gilts, tried sows, herd boar prospects.  
T. T. Langford & Sons, Jamesport, Missouri

## SPOTTED POLANDS—SHROPSHIRE

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

## Big-Type Poland Weanling Boar Pigs

Bargain prices. Satisfaction guaranteed.  
Isaacs Stock Farm, Peabody, Kansas.

## AUCTIONEERS.

## LIVE STOCK AUCTIONEER

Sales made anywhere. Price reasonable.  
I breed Duroc hogs and Jersey cattle. Write  
for date.  
H. GRABLE - - AGENCY, MISSOURI

## LIVE STOCK AUCTIONEER - Fifteen

years' experience. Wire for date.  
JOHN D. SNYDER, HUTCHINSON, KAN.

If you have a farm that is worth liv-  
ing on, you ought to give it a name.  
Have some letters and envelopes printed.  
Farming is the best business of the age,  
and the good farmer should show himself  
a business man by the appearance of  
his stationery.

## FARM AND HERD.

McClelland & Sons, of Blair, Kansas, have  
announced October 23 for their annual  
Poland China fall sale. They have raised  
160 early spring pigs, the best lot ever  
raised on the McClelland farm, sired by the  
four chief herd boars now on the farm: Mc's  
Big Jones, Model Big Timm by Ferguson's  
Big Timm and out of Lady Model, Big Bone  
Bob by Caldwell's Big Bob and out of a  
Smooth Big Bone sow by old Smooth Big  
Bone. The herd sows are by such boars as  
Chief, Long Jumbo, Model Big Bob, Mouw's  
Chief, Smooth Big Bone, Long Joe and other  
good boars. This herd is as well bred as  
will be found anywhere in the country and  
probably one of the best herds in the state  
individually.

Herman Groninger & Sons, the well known  
breeders of big-type Poland Chinas of Ben-  
dena, Kansas, have announced October 9  
for their annual fall sale of Poland China  
boars and gilts. This firm has been breed-  
ing Poland Chinas for more than forty years  
and owns one of the good herds in Kansas.  
The herd is headed by U. S. Buster by Giant  
Big Liberty by Rexall, Model Timm by Big Timm,  
and Big Wonder by Rexall, Wonder Price 2d  
The herd sows are among the very popular  
blood lines. Messrs. Groninger & Son have  
raised 125 head of spring pigs mostly sired  
by the above herd boars. They are about  
the largest and best bunch of spring pigs  
one would find in several days travel among  
herds in Kansas.

## POLAND CHINAS.

## HEREFORD CATTLE.

SOUTHARD'S  
MONARCH  
HEREFORDS

PUBLIC SALE JULY 28 AND 29, 1919  
200 Head—The breed's best cows and  
heifers. Send for my fourteen reasons why  
MONARCH HEREFORDS are best. My cat-  
alog free for asking.

J. O. SOUTHARD  
Box K Comiskey, Kan.

## HAMPSHIRE HOGS

Registered Hampshire Hogs—Sows and Spring  
Gilts, bred or open. Choice spring boars. Dou-  
ble treated. Geo. W. Els, Valley Falls, Kansas

## RED POLLED CATTLE.

## RED POLLED BULLS

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

## RED POLLED CATTLE FOR SALE

Young bulls and some extra good young  
cows to calve in early spring. A few year-  
ling heifers.  
J. W. FOULTON, MEDORA, KANSAS

RED POLLS, BOTH SEXES, BEST OF  
BREEDING.

Charles Morrison & Son, Phillipsburg, Kan.

## JERSEY CATTLE.

## ALLEN CENTER STOCK FARM

Registered Jerseys from choice Jersey  
cows. Sire's dam is the highest produc-  
ing cow in Kansas. Prices reasonable.  
TREDWAY & SON, LA HARPE, KANS.

## BROOKSIDE JERSEYS

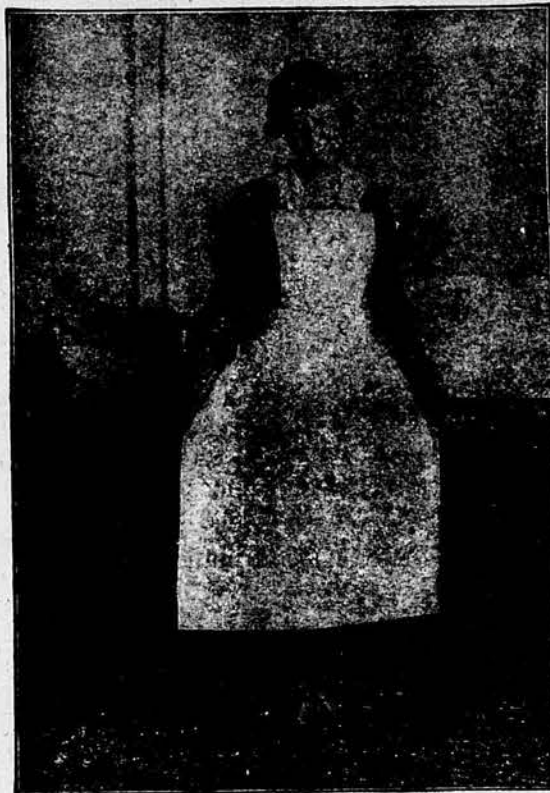
REGISTERED JERSEY BULLS, few old enough  
for service from Eminent Flying Fox dams, sired  
by Idalia's Raleigh, a son of the great Queen's  
Raleigh. Write for prices.  
THOS. D. MARSHALL, SYLVIA, KAN.

To be a real success, a farmer has got  
to believe in farming as one of the best  
callings in the world.

## Gilts to Texas Pig Clubs

Kansas breeders are helping in the  
boys' and girls' pig club work of other  
states where there are not enough high

Beautiful Waterproof Apron  
FREE



This is not an ordinary  
apron, but is made of  
beautiful waterproof ma-  
terial which gives the  
appearance of the finest  
quality of checked ging-  
ham.

EASILY  
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The waterproof mate-  
rial of which this apron  
is made will keep clean  
much longer than any  
ordinary apron, and it  
can be easily washed  
with soap and water or  
cleaned with gasoline  
without injury to the  
fabric or color.

## COLOR

We can furnish these  
aprons in either light  
blue checked or pink  
checked. In ordering,  
state color wanted.

The aprons are 30 inches long and 28 inches wide, with bib 9½ to 10  
inches.

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send us only two subscribers to Kansas Farmer for one year at \$1.00 each.  
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KANSAS FARMER, Topeka, Kansas.

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class well bred hogs to go around. H.  
O. Sheldon of the Deming Ranch recently  
delivered seventy-five head of Poland  
China gilts to a county agent in a Texas  
county, most of them for distribution to  
pig club members. Mr. Sheldon went  
with the shipment himself in order to  
be sure the gilts were properly cared for  
and reached the boys and girls in the  
best possible condition. He says: "The  
day we distributed these gilts there was  
a steady downpour of rain during the  
greater portion of the day, which made  
it a wet and disagreeable job, but we

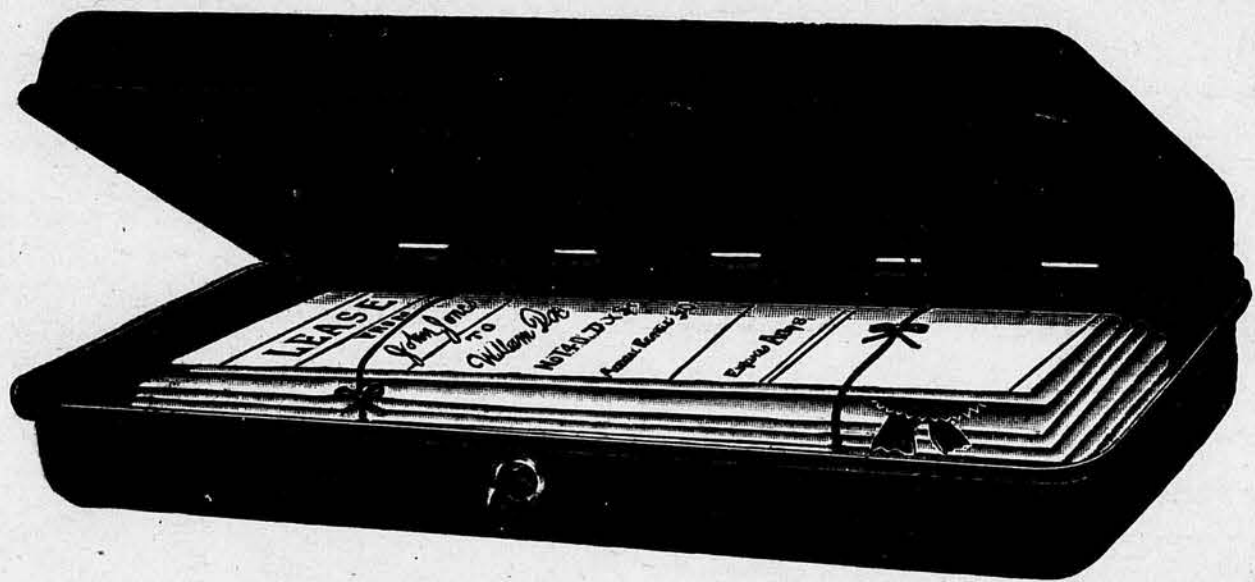
had the satisfaction of seeing these club  
members get their hogs in first class  
condition, and all seemed to be very  
much pleased with the individuals they  
received."

During this same week Mr. Sheldon  
shipped fifty fall gilts and seven fall  
boars to a county agent in another Texas  
county for pig club work. Through Mr.  
Sheldon the Deming Ranch has offered  
a special prize in each of these localities  
to be given to the club members mak-  
ing the highest record in their contest  
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