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of the Farm and Home

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CO-OPERATION IN PRODUCTION

Without Some Common Interest, Neighborhood Not Ready For Co-operation

By GEO. O. GREENE, Before Indian Creek Grange Institute

I REALIZE that the subject of co-operation does not mean as much now nor arouse quite as much interest as it did a few years ago. People are interested in other things—in increased production and in the better prices they are getting. Always when people get interested in these things they lose interest in co-operation, and always the condition of co-operation has fluctuated with farm profits.

You remember that when the Grange took up co-operation it was nearly the undoing of the organization and was not a small factor in the death of the Farmers' Alliance. Whether or not it will be the ruination of some of the other farm organizations is another question. Each one builds a little better and the time must come when co-operation is the rule rather than the exception. It seems to me that the reason for the failure of some of the co-operative organizations is that they begin at the wrong end. They usually begin at the back and work forward. I think you will find that in nine cases out of ten they take up some method of supply. There are few communities in the state where people have not found that they could successfully co-operate in selling. If you get together a load of cattle, for instance, you find that you have all the breeds under the sun in that carload—some men have them all in one cow. This means the best must sell too low in order to make a market for the poorest. Such products do not give desirable publicity to the community. You are not known to the outside world for high grade stock. Too many of us are like the man living in a community where everyone else raised White Leghorn chickens and this breed had been developed to a high state of perfection. This one man began breeding Golden Campines. When asked why he did it he replied that he wanted something different from what everybody else had. In other words he wanted to junk up the poultry production from the entire neighborhood for the sake of having "something different."

I have always believed that the community that cannot co-operate in production cannot co-operate in marketing. In talking co-operation, the organizations of the fruit growers of the West or the dairymen in Wisconsin are usually held up as an example. As a matter of fact the reason they are getting together is that everyone in the community is interested in that one line. They are co-operating in production first and they find it necessary to co-operate in selling later on.

We often hear the remark that no matter what the farmer has to sell, somebody else sets the price. How many farmers are able to place a price on their products? Do you know how much it costs to produce anything you grow on the farm? How many answers did the Government get to the question of what it costs to raise a bushel of wheat, and how many of those who did attempt to answer the question knew what they were talking about? I do not think many farmers know what it costs them to raise a bushel or a pound, nor the cost of distribution, so they are not able to say what their products are worth to them or to the community. When I hear people talking about price control and food conservation, I wonder why farmers do not wake up to their opportunity. I imagine that more criticism of the Food Administration has come from the farmers than from any other class, and

yet after all the greatest advantage is to come to the farmer. I think we will grasp the opportunity and have some real organized co-operation before this thing is over. We are going to have some information that will be of value to all classes of society. While some of the preliminary work done along food control lines is going to hurt and will hurt the farmers as well as other people, yet in the end there are just two parties who will be considered—the producer and the consumer.

One of the points which a few years ago was often brought up in a discussion of co-operation was that we would secure better prices and greater profits for the farmer if we could organize in such a way as to produce a little less. The last year has disproved such argument. As a matter of fact, we got the higher price because of food shortage, but the price of the things the farmer had to buy came up before the price on his products. One of the principles of economics is that the farmer's products are the last to go up in price and the first to come down. The reaction of high-priced food products hits the farmer before he is able to realize on the increased prices. His crop is in the majority of cases already sold at harvest prices, which are uniformly much lower than the high point. Those who are handling the products are going to get their pay out of it before the farmer gets his.

It is also argued that the way to make greater profits is to work for greater production. A great deal is being said now about the necessity of greater production on the farms. Sometimes the farmer resents the fact that everybody is interested in his business, forgetting that everybody lives from the products of his labor. As a matter of fact, the man who talks for greater production as a means of increasing farm profits and the man who talks for less production are both wrong. The farmer does not need either greater or less production as

much as he needs better quality and cheaper production.

The man who can produce a crop more cheaply than his neighbors has a profit they cannot touch. When a community is well organized, the exchange of farm machinery and of experienced help enables cheaper production, and the high price goes to each one.

Community organization simply means that the community can produce more cheaply than where each man is working along a different line, and its products are of better quality. The thing in which we need to take more interest is better and cheaper production rather than greater production.

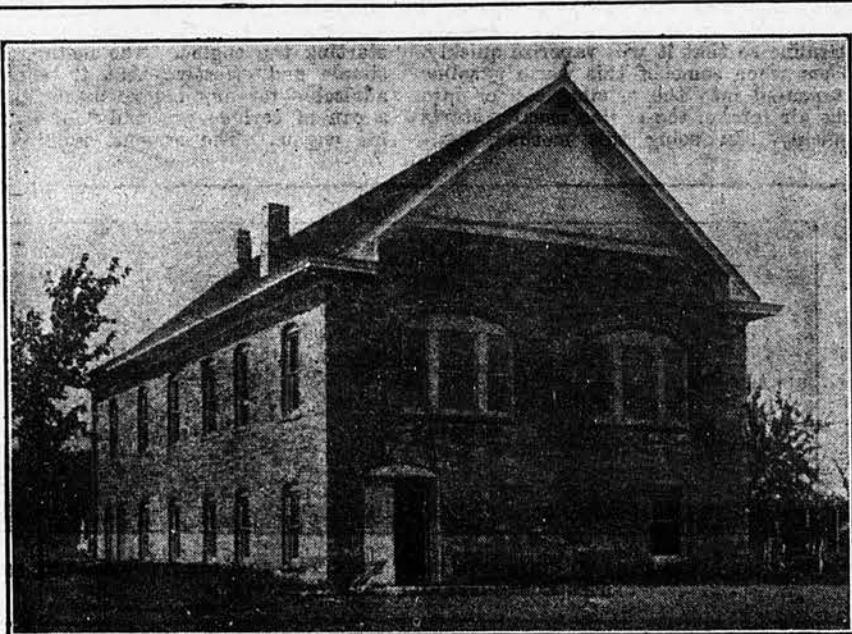
In 1899 the average meat production in the United States was 280 pounds per capita. That has fallen to 219 pounds at the present time, and you know whether it costs more to produce it. You can readily see why people interested in buying think the farmer is getting a big thing out of it at the prices he is getting now. Farmers are not organized to tell their end of the story and no one takes the trouble to show the increased cost in production. The man going on the farm today must produce several times as much per acre as his father or grandfather produced. To illustrate: Suppose a young man buys land now at \$80 which his grandfather bought in the early days at \$20 an acre. I believe at that time taxes were not more than three-fourths of 1 per cent. The interest on farm mortgages was perhaps about the same as now—around 6 per cent. You see what it means. With taxes at 1½ per cent, or more, the boy is paying 8 per cent on his grandfather's original investment in taxes alone, and 24 per cent in interest. Not only that, but the land will not produce what it would at that time. It costs more to produce every bushel and every pound. Labor is higher. Conditions have changed entirely. You can see why there is a difference of opinion

as to how much profit the farmer is getting between people in the city and people in the country. Society in general thinks because the farmer has increased his price he must be getting away with a good slice, but when we begin to compare prices with the cost of production we can see how the margin of profit may be entirely eliminated.

The community that can work together to produce more cheaply than the individual farmer can produce is the one that is going to make the greater profit. How will organization in the community increase the profits? By greater community skill; perhaps that is the most important result. From the fact that the whole community is interested and working along the same line, the accumulated knowledge is greater in that community than where every man is working by himself. That is illustrated in a neighborhood where the people are all raising cows. They do not know anything but Holsteins or Jerseys, as the case may be, but they know them pretty well. The same thing is true where everyone raises fruit. They know nothing but apples, but they know them pretty well. If the people of this community were transported to a Troy, Kansas, hotel at apple-picking time, you would be bored with the conversation. They do not talk anything but apple picking, apple prices, apple packing, and apple marketing. But that community has obtained information that the average community does not have. There may be individuals in any section that know as much about fruit as any of these men, but it is not common knowledge, and the neighborhood as a whole has not made the same advance.

In many communities the farmers have put in an elevator and retail store of their own, but they find they have not gone very far yet in the solution of the problems of distribution. Looking into the future as they planned these enterprises, they had dreamed of never-ending trainloads of produce going away and never-ending trainloads of supplies being brought back. They thought there was no reason why their cattle should not top the market. But when the first carload of cattle came in for shipping some were fine and some were very poor, and of course the lot did not bring the top price expected. Some of the wheat shipped out was stack-burned and some the finest on the market, and it all had to go on the market together. The man with western high-grade milling wheat got the same price as the man who let his wheat get wet. Farmers are beginning to see the necessity of getting together in production, and that the community that can produce a good standard product is the one that will make the best profits.

The need for co-operation and some of its possibilities are readily seen by an outsider, but the fine points must be determined by the people living in the neighborhood. The first thing necessary is for people to be in the frame of mind to co-operate. The next question is, what is the land good for? What is the community best fitted for? What is the point of contact? Do not try to force the community into the things which are personal hobbies, for they will go the other way. Try to determine in what line of farming you and your neighbors have a common interest. If there is no project in which a common interest can be aroused, the neighborhood is not yet ready for co-operation of any kind.



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Tractor Profitable in Iowa

Of 171 farmers interviewed by four senior engineering students of the Iowa State College, 158 gave replies warranting the conclusion that a tractor adapted to the size of the farm is almost always a success. The investigations covered seven counties of the state.

Of the 171 farmers visited, 158 said their tractors were paying propositions, and but thirteen said their machines were not a success. Six only of the thirteen gave reasons. Two, with 15-30 tractors, said their tractors were too heavy; and four, with 8-16 tractors, said they were too small. A 15-30 tractor is one which will give 15 H. P. at the drawbar and 30 H. P. on the belt.

The 10-20 is the most popular size, although it has not been on the market as long as the 8-16. Thirty per cent of the farmers had 10-20 machines, 26 per cent had 8-16, and some 15 per cent had 12-25. Regardless of the size owned, most farmers believed the 10-20 best adapted to the farm.

The number of horses displaced by the tractor is hard to determine. Some men use their machines simply to do belt work and plowing, and then they do not displace any horses. Others plan to reduce the number of work horses and do all the heavy work with the tractor. The 171 owners who figured horses displaced reported an average of 3.01 horses per tractor.

Very few of the machines were on farms as small as 120 acres, but from 160 to 240 acres was the most popular-sized farm for the tractor. Almost all agree that a tractor would pay on a 160-acre farm.

The most popular advantages of the tractor as given were: "plows deeper," "does better work," "used in hot weather," "longer days in rush season."

In New York, state funds have been invested in tractors which have been installed in central places and from these points distribute their work over the surrounding neighborhood.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

WHEN the motor refuses to start these cold mornings, the trouble can be traced usually to the carburetor, writes Dr. Leonard Keene Hirshberg in the current issue of the American Motorist. More gasoline is required in cold weather than in warm weather, and the adjustment should be made accordingly. The richer the mixture of gas going into the cylinders, the more heat will be generated.

The outside air is much colder, and consequently the heat will radiate much faster from the cylinders than in warm weather. To get the same results from the motor, this extra loss of heat must be made up by supplying an extra amount of fuel. The cooling system should also receive careful attention to prevent any damage arising from freezing. The radiator cells have very thin walls for rapid cooling, and the lightest freeze is liable to develop leaks. The system should be cleaned out with a solution of ordinary washing soda and water, and then an anti-freezing solution of some sort used.

A solution of calcium chloride in water has been found to be very satisfactory in all conditions. Alcohol is expensive and requires frequent renewal. Use chemically pure calcium chloride. The commercial form usually contains acid that is injurious to the metal parts. Get a strip of blue litmus paper from the drug store, and if it turns pink in the calcium chloride, put in ammonia or soda ash until it remains blue.

The amount of calcium chloride to use may be found from the following table:

Pounds of calcium chloride per gal.	Freezing point, degrees F.
2	18.0 above zero
3	1.5 above zero
4	17.0 below zero
5	39.0 below zero

Starting Engine in Winter

Nothing is more exasperating than spending half an hour or more trying to start a balky engine on a cold frosty morning. Gasoline does not vaporize readily at low temperatures and the logical remedy for difficulty in starting is to create a condition that will cause the fuel to vaporize and ignite readily. In cold weather it is always the safest plan to drain the cooling system over night and filling the hopper or radiator with hot water will often warm the cylinder sufficiently to vaporize the fuel quickly. It is much easier to crank an engine that has been well warmed, for the lubricating oil gets stiff with cold and causes the pistons to work hard.

Raymond Olney in Farm Power tells of a farmer of his acquaintance who starts his engine by mixing a few drops of ether with a priming cup full of gasoline. He says that when he does this, if there is a good spark, the engine will invariably start with the first cranking.

"Another good plan," says Mr. Olney, "is to have a can of high-test gasoline on hand, a little of which should be put into the priming cup for starting. The object in using this is that it will vaporize more quickly than the commercial gasoline, because it is of a better grade."

"Another farmer uses an oil can which he fills with gasoline and sets in a vessel of boiling water. This heats up the gasoline so that it will vaporize quickly. Then when some of this warm gasoline is poured into the priming cup or into the air intake, the engine usually starts quickly. In using this method, how-

ever, one has to be very careful not to put the can of gasoline into the hot water while near the fire, or even attempt to heat the gasoline over a fire of any kind, for it is extremely dangerous and liable to cause an explosion and a serious fire.

"Another very good method of starting an engine in cold weather is to hold the flame of a common kerosene torch or a plumber's blow-torch near the air intake. When the engine is turned over, the heated air around the torch is drawn into the carburetor, causing the gasoline to vaporize quickly. It does not take a great deal of heat to accomplish this.

"This method should never be used when there are any gasoline leaks or where the exterior of the engine is not kept free from oil and grease. Either of these conditions is very apt to cause a fire which might ruin the engine, to say nothing about destroying buildings and other property.

"Practically the same results can be accomplished by removing the spark plug or igniter and holding the flame of the torch at the opening. By cranking the engine the hot air will be drawn in and the interior of the cylinder heated sufficiently to ignite the fuel charge. But in this case also it is necessary to be careful to prevent setting the engine on fire.

"When ignition by dry cells is used, it is usually advisable to warm them up in winter before attempting to start the engine. In cold weather the current from dry cells is weaker than in warmer weather as the cold interferes with the chemical action inside the cells. When the engine is not in use it is a good plan to disconnect the batteries and keep the cells in a warm room so that they will produce a better spark when needed for starting. However, they should not be kept too warm, not over ordinary room temperature.

"The method employed by one farmer is to use acetylene gas which is drawn into the engine cylinders with the air and fuel. First, he drops a small handful (about an ounce or two) of calcium carbide into an empty baking powder can. Then when he is ready to start the engine, he pours a little water on the carbide, hangs the can under the air intake, and cranks the engine. The water on the carbide starts the chemical action which generates the acetylene gas. On the suction stroke of the piston, this gas is drawn into the cylinder with the air and fuel, and at the time ignition takes place the acetylene, being in the form of a perfect gas and very easily ignited, is readily fired by the electric spark.

"The heat generated by the burning acetylene helps to vaporize the gasoline quickly, which is also ignited. Two or three fuel charges containing the acetylene is all that is necessary to insure continuous running.

"This man says that no matter if the temperature is 30 degrees below zero when he uses the carbide, his engine always starts the first time it is turned over. He has used this method for three years and it has never failed.

"On many farms acetylene lighting plants are used, in which case it would be very convenient to use carbide for starting the engine. The method is so simple and effective that it would be advisable for any engine owner to buy a can of carbide especially for starting his engine. The amount required for

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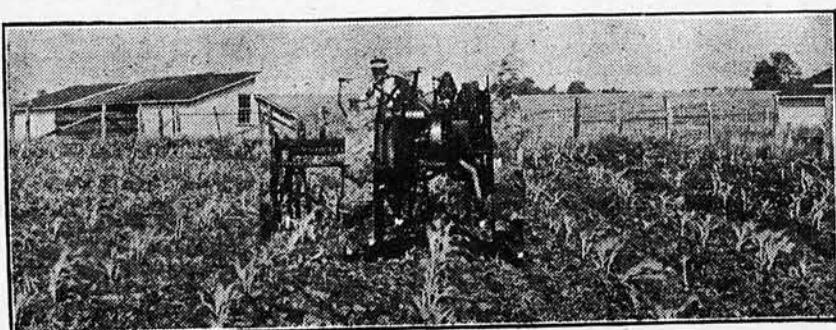
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BOARD OF AGRICULTURE PROGRAM

A war-time program is being prepared for the big agricultural convention to be held in Topeka January 9-11 under the auspices of the State Board of Agriculture. This will be the forty-seventh annual meeting of the board. Some of the foremost farm and live stock authorities of the country have been invited to make addresses. Herbert Hoover has written the secretary of the board twice that he would "make every effort to attend," to quote the national food administrator, but that his movements were governed by such rapidly changing developments that he could not definitely promise a date yet.

Live stock problems will be given prominent consideration throughout the program. A subject that farmers everywhere are interested in is that of farm labor. The Government has a plan for meeting the labor situation, particularly with respect to possible needs next year, and E. V. Wilcox, of the Farm Management Bureau of the United States Department of Agriculture, will attend to inform the state just how the Government proposes to solve the problem. The Grain Grading Standards Act, the administration of which causes so much dissatisfaction among Kansas wheat growers this year, will be discussed by Chas. J. Brand, chief of the Bureau of Markets of the United States Department of Agriculture. Other timely and important subjects will be presented by capable authorities, and one or two purely war lectures by men who recently have been on the battle fields of Europe, are being arranged for.

Under the new law extending representation in the convention the official attendance will be trebled if not quadrupled. The public generally is invited to attend and participate in the proceedings. It is expected that an unusually large number of farmers and stockmen from all parts of the state will be present because of the unusual conditions confronting the agricultural industry and the need for counsel in dealing with them intelligently and most effectively.

The responsibility of winning the war rests in large measure on the farmer. The importance of an adequate food supply cannot be over-emphasized. Not only our own consumers, but much the rest of the world must rely more completely than ever before upon the American farmer. Out of the Kansas convention will come measures and recommendations that will enable the men of Kansas to do their part and do it most efficiently, to make every stroke count. Every farmer and stockman of Kansas would be well repaid in attending this convention. Every Kansas man who can do so should take part in formulating these measures and recommendations.

PRICE OF WHEAT

In spite of the fact that producers of wheat were compelled to adjust themselves without any preliminary period to Government control of wheat prices, the results of a questionnaire sent out by the State Board of Agriculture indicate that farmers of Kansas are acquiescing to this measure as a war necessity. The following question was asked all the crop reporters of the State Board of Agriculture:

"Do you regard the price fixed by the Government for this year's crop as reasonable?"

"It is interesting to note," says Secretary Mohler, in commenting on the replies, "that of the 903 who answered the question, 584 replied 'Yes,' without qualification; 72 said, 'No, because prices are not fixed on other commodities,' and 155 unqualifiedly said 'No.'"

"The question really invited only a 'yes' or 'no' answer, and the replies indicate quite clearly that the big majority of Kansas farmers look on the price as a reasonable one for wheat when considered alone without reference to other

commodities. When compared with prices of other commodities it is a somewhat different story, however, as suggested by the number of reporters who took the pains to qualify their answers. There is probably not a farmer in Kansas but who would agree that the fixed price is abundantly high provided prices on other commodities, as wheat products, cotton, machinery, and so on, were scaled similarly, and this feeling is doubtless general among the great growers of the country's wheat belt. President Wilson recognized the inequity of the situation in his recent message to Congress, when he said the farmers contend, 'with a great deal of justice, that, while the regulation of food prices restricts their incomes, no restraints are placed upon the prices of most of the things they must themselves purchase.'"

"Replies to the board's inquiry show that the Kansas farmers are true patriots and bow with good grace to the mandates of the Government, even though such mandates may appear discriminatory. That our wheat growers have gone ahead and sowed the second largest acreage to wheat in the state's history suggests that the Kansas farmers are determined to do their part in full measure in this emergency and indicates their belief that in time the Government in its gigantic undertaking will adjust present inequalities to the end that all interests are dealt with fairly and justly. The Kansas farmer is charitably inclined and will await further developments with confidence."

GRANGE AND COLLEGE PRESIDENCY

The selection of a man to succeed Dr. H. J. Waters as president of the Kansas Agricultural College came up for consideration at the Kansas State Grange meeting which was held in Burlington last week. The attitude of the State Grange on this most important matter was finally summed up in the following resolution:

"Be it resolved that this State Grange assembled at Burlington, Kansas, does urge upon the Board of Administration the importance of using all diligence in selecting a strong man identified with agricultural interests and pursuits and in sympathy with agriculture as president of the Agricultural College."

Knowing something of the circumstances surrounding the introduction and passing of this resolution, we read between the lines that the Grangers propose to check this job up squarely to the Governor and the Board of Administration, whose duty it is to select a man big enough for this place, and simply urge them to spare no effort in their search for the right man. The only additional specification they lay down is that they want a man thoroughly in harmony with agricultural pursuits. As pointed out by a prominent Granger in discussing the resolution to present to the Board of Administration, it is easier to go slow and avoid making a mistake than it is to correct one and overcome its harmful effects after it is made.

In view of the fact that one of the candidates commonly rumored to be strongly considered for the place has the backing of a number of men very prominently identified with state politics, this resolution of the Grange is rather significant and will probably be given most careful consideration by the Governor and the Board of Administration.

TREATMENT OF ENEMY ALIENS

More severe measures in the treatment of alien enemies in our midst who conspire against our peace and safety are imperative. We are glad to note that President Wilson devoted some attention to this subject in his address to Congress. He demanded that legislation should be enacted defining as a criminal offense every wilful violation of the presidential proclamations relating to alien enemies promulgated under Section 4067 of the Revised Statutes and pro-

viding appropriate punishments; and that women as well as men should be included under the terms of the acts placing restraints upon alien enemies.

"It is likely," said the President, "that as time goes on many alien enemies will be willing to be fed and housed at the expense of the Government in the detention camps and it would be the purpose of the legislation I have suggested to confine offenders among them in penitentiaries and other similar institutions where they could be made to work as other criminals do."

Our lawmakers should give prompt attention to the suggestions made. There is no excuse whatever for pampering the alien who attempts to interfere with our prosecution of the war.

KANSAS AND FOOD CONSERVATION

Kansas stands at the head of all the states in the Union in her support of the Food Administration's food conservation program. The food-saving pledges have been signed by 94 per cent of the families in the state. This is most striking evidence of the staunch loyalty of the people of Kansas.

The total number of signatures in Kansas reported to Dr. H. J. Waters, who has been until recently food administrator for the state, is 464,277. This is one and a half times the goal set in the campaign, which was only 300,000.

The percentage of families enrolled in the state is just double the percentage the United States over, which is 47. Next to Kansas stands Iowa, with 91 per cent. These are the only two states surrounding Kansas range from 56 to 70 per cent.

The high attainment in the Kansas campaign is attributed to the thorough organization maintained and to the whole-hearted zeal and co-operation of workers in all parts of the state, as well as to the general patriotic sentiment of the public.

STATE GRANGE SUPPORTS WAR

As the initial act of its first session, the Kansas State Grange sent the following message to President Wilson:

"The Kansas State Grange of the Order of Patrons of Husbandry in forty-sixth annual session assembled sends greetings and wishes to assure you that in this time of national need we are always ready, and pledge to the Government the unstinted support of the loyal Patrons of our state in carrying on to a successful conclusion this world struggle for better government conditions for all nations."

"Our feelings and attitude toward war are those of abhorrence and condemnation, but since war has been made the price of peace, we hope for its successful prosecution to the end that there may follow the nearest approach to permanent world-wide unarmed peace that the wisdom of men can devise."

"When peace shall have come we will have no sympathy with the idea of an armed peace, as the dismal failure of that plan, once so ardently advocated in Europe, now warns us to forever avoid such a delusion."

The State Grange which met in Burlington December 11 to 13, like the National Grange, took a decided stand on the matter of using cereals and other food materials for the manufacture of malt and spirituous liquors. In a strong resolution it appealed to the Federal Government for national prohibition, believing that a measure prohibiting the use of grains and sugar of all kinds in the manufacture of alcoholic beverages will be a great factor in helping to win the war.

Treat the well-selected brood sow kindly and intelligently, and she will respond in full measure with a fine litter of pigs at weaning time.

PROTEST FEED PRICES

There is no justification for the exorbitant prices being asked for bran and shorts. The farmers who are compelled to buy mill feeds in order to properly feed their live stock are rightly contending that millers should be compelled to adjust prices of wheat by-products on the basis of the Government price for wheat. The farmer was the one man who had to adjust himself to food price regulation over night. Other interests have had weeks and months even in which to get ready to conduct their business under the new order. Millers are now operating under federal license. Their profits in flour are rigidly fixed. Bakers are likewise coming under similar control.

In the matter of bran and shorts, however, the Food Administration has so far been silent. Dr. H. J. Waters has protested most vigorously to the food control officials in Washington against the serious injustice of regulating the price of wheat and profits on flour while permitting the by-products of wheat to be sold without regulation. The dairy-men and the pork producers who are expected to do their part in supplying fat to the world are hard hit by the high prices of bran and shorts which now prevail.

Last Saturday night the Leavenworth and Wyandotte Dairy Association, which is a strong organization of milk producers in those two counties, held a meeting in Lansing and a resolution was introduced petitioning the representative in Congress from the Third District to use his influence with the Food Administration to put a stop to the sale of bran shorts at the present unjustifiable prices. Similar action should be taken by other organizations. If wheat is arbitrarily kept to a two-dollar basis and flour is sold accordingly, the farmer who must buy bran and shorts if he is to do his part in the production of live stock should have protection against the charges now being made for milling by-products. Kansas City millers quoted on Friday of last week, patent flour of established brands in bulk at from \$9.50 to \$9.80 a barrel. On the same day Kansas City mills quoted brown shorts at from \$2.10 to \$2.15 a hundred, sacked; gray shorts, \$2.30 to \$2.40; white shorts, \$2.80 to \$3, and bran to jobbers at from \$1.95 to \$1.98 a hundred.

It has been rumored in Kansas City milling circles that the Food Administration would soon fix prices on mill feed in order to prevent the present method of selling these products from interfering with the stability of flour prices. The contention of the dairymen and the pork producers that bran and shorts, which they must have, should sell at prices proportionate to the fixed price of wheat is fully as good a reason for taking this action as the one intimated.

WICHITA'S LIVE STOCK SHOW

The preliminary premium list for the second annual Kansas National Live Stock Show to be held in Wichita from February 25 to March 2, shows a complete classification for Shorthorn and Hereford cattle, also a complete classification for Shorthorn and Hereford cattle owned in Kansas and Oklahoma which have not won a first or second premium at the state fair or national live stock show. This will appeal to the smaller breeders who may have hesitated to show their stock in open competition.

Liberal premiums are also offered for Holsteins and Jerseys, Poland China and Duroc Jersey hogs, and horses. In all about \$25,000 will be paid for premiums, entertainment, music, and other amusements. Some of the leading auctioneers of the country will be present to conduct the live stock sales which are an important feature of the show.

This exhibition of live stock is well worthy of the enthusiastic support of the people of Kansas and Oklahoma.

FARM TENANCY EVILS

The Good Farm, Good Tenant, Good Tools and Fair Contract Make Success

By CHAS. H. TAYLOR

TENANCY in this country has the reputation of depleting the fertility of the soil, lowering the crop yields, favoring the growth of weeds and washing of ditches, allowing fences and buildings to fall into decay, making poor roads, weak churches, and inefficient schools in the community, destroying neighborhood spirit, and bankrupting both landlord and tenant. In this country where statistics show that 40 to 45 per cent of our farms are operated by tenants, it has acquired this reputation because the system most commonly used here makes all of these charges more or less true. Whatever effects detrimentally so large a proportion of our people becomes at once more than a business transaction between two men. Since food production and the waste or conservation of our great natural resources of soil fertility are involved, it becomes a community, a state, and a national problem that must be solved. The sooner the problem is squarely faced, the better it will be for all concerned.

WRONGS AGAINST TENANTS

Our present tenancy system contains a number of features that are fundamentally wrong. Some of these things are wrong to the tenant, some are wrong to the landlord, some are wrong to society at present, and some to all of these and to posterity as well. So far as the farmstead is concerned, the tenant is a hireling and has no proprietary interest in the soil, the buildings, or the fences. Usually he is interested in caring for them only as that care helps him in his operations that year. Usually, too, the only financial inducement he has to do more is the hope that some man who owns a more desirable place will notice this care and offer this better place to him. If the tenant improves the place while on it, instead of being rewarded he is often penalized by having to pay higher rent or move. He is seldom paid for increased fertility he may have put into the soil, for pulling stumps, cutting brush, hauling off stones, or cutting weeds, except by the increase it brings to his crops while he stays on that farm. The owner shares in this increase, and if he notes that the tenant is doing well financially, may demand a larger share of the crop. At the termination of the lease the landlord accepts the place as it is, neither paying for added value that the tenant may have left nor collecting for damage that may have accrued from soil robbery, neglect, or actual vandalism such as using up the fences and buildings for kindling. True the landlord will punish the bad tenant by putting him off the place, but when he was unable to make a living by staying, what does that matter? Home conveniences are few, but the tenant will hire to a neighbor or remain in idleness in spare times rather than make many improvements. Obviously improvements made will be cheap and temporary, and children raised in such homes are deprived of some of the economic home training that every prospective home-maker should have. Add to all of this the fact that a large per cent of our tenants remain only one

year on a place and that few of them stay five years, and we can readily see why the farm and the neighborhood institutions depreciate.

Building up fertility requires the use of a rotation of crops that includes a legume and the feeding of live stock, which in turn requires fences and buildings. This takes time and extra labor, and the tenant may leave before the place has ceased to absorb all of the work and begins giving greater returns. He may build up a herd of superior stock and then have to sell all of it because his next place has no pasture or equipment for stock. This being the case he refuses to begin. Of what interest to him are good roads when he will be miles away next year? Why should he care for schools, churches, or even people in this locality if he is to leave before he becomes really acquainted? We cannot deny that our present tenant system contains many depressing features. It discourages constructive work on the farm and encourages destructive work.

No system can long endure after it has been generally recognized as unprofitable. The thing that has helped to delay the general outcry and demand for reform in tenancy is the speculative value of land. So long as land is advancing rapidly in price the landlord will endure tenancy conditions that make tenancy alone unprofitable to him. If he can buy good land, keep it ten years without putting any expense into it, have a tenant work hard mining it, and then sell for more than first cost, he may not complain of tenancy. He has been prospering, but has done so largely by robbing the soil and so robbing posterity. New Zealand has eliminated this evil by increasing the rate of taxation as the acreage owned by one man increases, so that it is unprofitable to hold any large areas, and in that country tenancy is now practically unknown.

THE SHIFTLSS TENANT

The landlord is not alone in being able to get satisfaction out of the lease system as we ordinarily have it. Not infrequently we hear of the worthless scoundrel who is happy if he is alive and has something to grumble about, renting a good place worth \$16,000 or more. With the place he secures a house that in the city would cost \$10 to \$20 per month, an orchard and plenty of ground for garden, all free. He feels under no obligation to make money for the landlord but is content if he makes or gets a living for himself. He raises hundreds of chickens or rather makes his wife do it, and to make sure that she is kept busy enough to support the family, has been known to spend as much as three or four days of the week in gathering up washings for her and delivering them after they had been cleansed. He may plant wheat, oats, or kafir near the poultry house and then delay the harvest in order that he may get his full share with the least expense. He may keep poor hog fences so the pigs he is raising can help harvest

the partnership crops. If cash rent is to be paid, the landlord may let him move away quietly; or he may sue, get judgment, and then be unable to collect and have to pay the costs because the tenant is not worth it. True, the landlord may attach the whole crop, but if the tenant is a "thoroughbred" that may not make enough to pay the taxes. He has been known to sell the clover seed the landlord furnished instead of sowing it on the place. When assured that he must leave, he uses as fuel the picket fence and all detachable portions of the buildings, scatters tin cans and old rags in the front yard, loads up the landlord's woven wire, makes the house as dirty as he conveniently can, throws a dead cat into the well, and goes on to some other place. This is why some landlords say that good improvements do not pay, and some prefer to own land with no improvements, if they must keep it as tenant property.

SUCCESSFUL TENANCY CONTRACTS

Sentiment is fairly united against our present tenancy system, but business reform never comes from sentiment alone; it must arrive by the help of sound business principles. Tenancy is a partnership affair and no intelligent partners maintain this relationship long unless they have a business contract that is fair to both and by which both can make money. And no system of farming that fails to maintain the fertility of the farm can long be conducted profitably, so the land also becomes a partner.

In looking about, we find some men using systems of tenancy that maintain the fertility of the soil and give returns to both partners, so to them we turn for guidance. Their success is due to their correct contracts or to their personal ability or both, so we will note all items carefully. S. G. Turner owns a well-equipped stock farm near Lee's Summit, Missouri, stocked with high-class cattle and hogs. Having employed as farm manager a man who showed marked efficiency, he contracted to keep him at the same salary plus half of the net returns from the place.

Robert E. Booth, a Kansas City banker, was working his farm unsatisfactorily with hired help, tried renting it with like results, and then made a five-year partnership lease that has proven satisfactory. This lease was made with a man who had been working for him and had made good at the farming business. The tenant purchased half of the stock, implements, and feed; the expense of purchasing extra feed, seed, labor, etc., is shared equally, and net profits are divided equally. The interest on the owner's investment in the farm is accounted to be worth the tenant's labor and managerial ability, so the more valuable the farm from a producing standpoint, the better the manager it should be possible to secure. Inasmuch as many landlords have practically the same contract except that the tenant owns all of the implements and furnishes all of the labor, this may seem to be unfair to this

landlord. However, the Booth farm is a dairy farm, while under these other contracts the places are operated as grain, hog, or beef farms, or a combination of these. In truck farming and in dairying the tenant cannot do all of the labor and divide profits equally and the more the product is worked into its final form and distributed to the ultimate consumer, the greater the injustice to the tenant, who furnishes all labor. This lease of Mr. Booth's is the only one I have noted that would be fair in a dairy or gardening contract, no matter how the produce was marketed. On the large place, representing a large "interest on investment" item, the landlord would of course prefer a manager who had children large enough to help with the work.

Another conspicuous example is that of John A. Cavanaugh, Des Moines, Iowa, who comes of a family that has been renting good Iowa land the past fifty years. He owns 1,000 acres with excellent equipment, tile drained, and heavily fertilized with potash and phosphorus where needed. He takes as tenants only men of excellent farm experience who own good farming implements and plenty of heavy work horses. His rent averages \$10 an acre and in good years reaches \$14. His tenants stay with him only a few years and leave to go to a farm that they have paid for. He has no trouble getting new tenants, for men of these requirements are always waiting for his places.

One Eastern Kansas man has established on his farms a five year rotation of corn two years, wheat, clover hay, and timothy-clover pasture. He gets as rent half of the grain. If the tenant uses all of the hay and pasture and returns the manure, the landlord receives no share of these crops. The places are increasing in fertility and both parties are satisfied. No better way of encouraging the tenant to keep up the fertility of the place has come to my notice.

Success in any manufacturing business depends upon the efficiency of the plant, equipment with good tools, suitable terms of contract, the quality of management and labor, and the co-operative spirit on the part of both owner and workmen. In most cases the owner makes the general plans for running the plant successfully, and in all cases he looks after its maintenance. If he is a wise manager, he adopts some device whereby the good ideas of the workmen are secured, and their loyalty retained by financial rewards. This is usually brought about by giving them a share in the profits. All of these principles operate in farm tenancy. The good farm, good tenant with good tools, and the good contract makes success. Lack of any one of these may spoil the whole thing. The landlord is the one in a position to adopt a good crop rotation; the tenant can do this only when he is assured of a long contract, at the close of which he shall receive pay for improvements including buildings, manures, fertilizers, etc., he has furnished and leaves for his successor. No other nation has a tenant system equal to that of Eng-

(Continued on Page Eight)



BUILDINGS AND EQUIPMENT OF FARM ARE USUALLY INDICATIVE OF THE PROFITABLENESS OF THE FARMING BUSINESS

ORCHARDISTS DISCUSS SOIL

Soil Fertilization and Choice of Orchard Location of Vital Importance

ONE of the questions drawn from the question box at the recent annual meeting of the State Horticultural Society was this: What substitute will the horticulturist get to take the place of barnyard manure for fertilizer?

"The question of fertilizer is of vital importance," said A. L. Brooke, president of the society, before turning the inquiry over to the audience for discussion. "We have to take hold of it right now. What is the best fertilizer that we can get? Of course we all know that barnyard manure is an excellent fertilizer for our soils, but we cannot get enough of it. Will the same fertilizer used in the East be the best for us to use here? In the East I have seen land that when I was a boy would not produce five bushels an acre, now producing good yields through the use of commercial fertilizers. Can we use commercial fertilizers successfully here? On fourteen rows of potatoes I used commercial fertilizer and I got no more potatoes from the fertilized ground than from the unfertilized."

Prof. Albert Dickens, who is a good all-round farmer as well as a good horticulturist, was the first man on the floor. "There is nothing that can take the place of barnyard manure," said Professor Dickens. "If there is one place where this association can get hold and do good work, it is in regard to this fertilizer question. Kansas City is preparing to burn barnyard manure. They have shipped out all they could get orders for. There is no other way you can spend money and get the returns that you can in buying barnyard manure. The transfer barns are anxious to get rid of the large amounts of manure produced. We must look for men who will haul manure. In many places the railroads are hauling manure at low rates because they know that if they haul manure into the community they will get plenty of something else to haul out. The Kansas Experiment Station has for several years conducted experiments in fertilizing potatoes, the fertilizer company furnishing the fertilizer with the understanding that if it produced an increased crop of potatoes they were to be paid; otherwise they were not to receive any pay. Ordinarily they have been paid, but you cannot get paid for commercial fertilizer unless your land is in the pink of condition."

"Our high-grade potash fertilizer has in the past come from Germany. Germany now has millions of tons of potash piled up. You cannot buy it in the United States except as you buy wood ashes. Every pound of wood ashes—and we have got to burn a lot of wood if this war goes on—has fertilizing value. Every cord of wood has a fertilizer value in ashes—not very high, perhaps 5 per cent if it is good ashes, such as hickory or some of the harder woods."

"We must plan to get the manure to the place where it is needed. The problem is what to do with the barnyard manure from the transfer and horse barns in the cities and from stock barns, and how to get it out where it is needed when there are not men enough to do the necessary labor on the farms. It has often happened that after the application of commercial fertilizer you get three or four or five inches of rain the next week and your quick-acting fertilizer is washed out unless the soil is well filled with decaying organic matter and thus in condition to absorb and hold the quickly-soluble commercial fertilizer. To use commercial fertilizer profitably you must understand soil and plant requirements thoroughly."

If the gardener is going to put \$40 or \$50 an acre into the soil of his garden, he had better spend most of it on barnyard manure. The orchards that had manure after the crop of 1915 and then again this year stood the dry weather better and carried their fruit better than those not manured. The orchardist can afford to put money into barnyard manure better than into any one other thing. In the Arkansas Valley the best returns have been made from land that has been well covered with barnyard manure and then well farmed."

Discussion brought out remarks to the effect that manure from the stock yards is sometimes unsatisfactory and is diffi-

cult to get on account of the shortage of cars. Someone stated that the Government had forbidden sending cars to stock yards for hauling out manure, on account of the shortage of cars for hauling coal. Another member spoke as follows:

"I consider this the biggest question before us today. If this world was properly fertilized it would produce and

care; 3, insect injury; 4, poor soil conditions. Soils have been of most importance in causing the death of these trees and have been responsible for many of the deaths from poor climatic conditions, and many of the deaths from insect injury were really due to poor soil conditions. Often a man will put his orchard on some hilltop or shale hillside because it is out of the way of his farm-

drop their fruit early in the season and often the tree will die because of poor root development."

"Fruit growing must be considered in the light of a constant cropping process. In handling farm crops we are opposed to the constant growing of one crop in one place, but an orchard must be considered as a constant crop."

To emphasize this point Mr. Throckmorton gave some figures from the Cornell Experiment Station showing the enormous amount of plant food removed by fifteen crops of apples.

Farmers' Co-operative Business

The activities of 5,424 farmers' co-operative organizations are reported in a recent publication of the United States Department of Agriculture. The Office of Markets and Rural Organizations, which conducted this survey, reports that there are about 12,000 farmers' marketing and purchasing organizations in the United States. Of the 5,424 furnishing reports of their operation, 1,708 are creameries and cheese factories. They do an annual business of \$83,360,648, and have an average membership of 83 farmers. The 1,637 farmers' grain elevators and warehouses reporting were located in twenty-three states, doing a total annual business of \$234,529,716. They have an average membership of 102 farmers. The 871 fruit and produce organizations do an annual business of \$140,629,918. The annual volume of business of 213 cotton organizations is \$34,392,258; of 275 co-operative stores, \$14,552,725; of 43 tobacco organizations, \$6,746,270; of 96 live stock associations, \$9,482,592. The gross volume of business for all organizations reporting was \$625,940,448.

Minnesota leads the states in the number of purchasing and marketing organizations among farmers. Of the total number reporting, 18 per cent were located in that state. Iowa stood second, Wisconsin and North Dakota next in order. Farmers' elevators, creameries and cheese factories and live stock shipping associations are the principal types of co-operative effort in these states.

Fruit and produce associations are the chief forms of co-operative activity in Oregon, Washington, Idaho and Montana. The farmers' grain companies are next in rank. In California 60 per cent of the organizations handle fruit and produce. Cotton associations lead in Texas, North Carolina, South Carolina, and Georgia, fruit and produce organizations second. Tobacco associations are found chiefly in Kentucky. Creameries form the larger share of farmers' co-operative enterprises of the New England States.

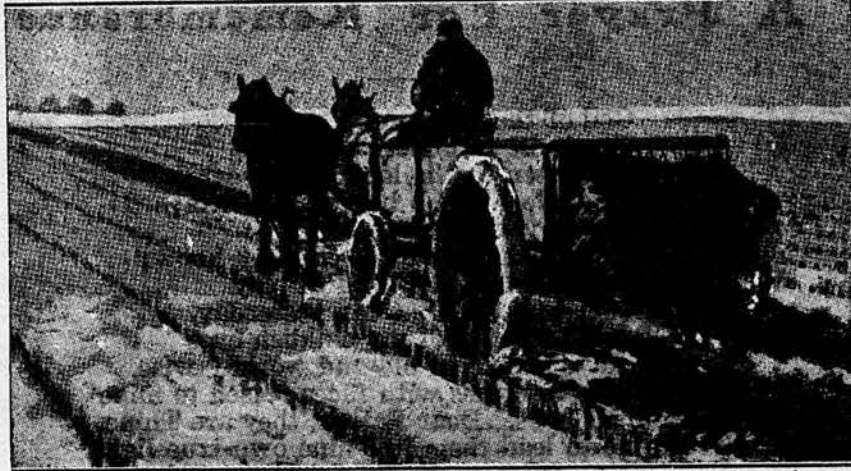
The new bulletin, No. 547, "Co-operative Purchasing and Marketing Organizations Among Farmers of the United States," contains much valuable information concerning the financing and business practices of various types of co-operative associations. It includes a summary of state laws relating to the formation of co-operative organizations. It discusses the bearing which Section 6 of the Clayton Amendment to the United States anti-trust laws has on farmers' co-operative associations.

Fertilizer with Manure

Barnyard manure is deficient in phosphorus and hence is not a balanced food for plants. Additions of this element return much more than their cost on soils of average fertility.

Eight tons of manure per acre applied to land at the Ohio Experiment Station at Wooster has produced a twenty-year average yield worth \$24 an acre. Acid phosphate costing 85 cents annually has increased the value of the yield to \$28 when used in addition to the same quantity of manure. At present prices the cost of the acid phosphate would be \$1.20, and the value of the increased produce \$18 over that produced by manure alone.

Animals take out of their feed the phosphorus necessary to build their skeletons or that contained in their milk. Unless the produce of the farm is supplemented with phosphatic fertilizers or feed brought in from outside, the soil will become exhausted of phosphorus as crop production continues. Acid phosphate or raw phosphate rock is commonly used at the rate of forty pounds to a ton of manure.



NO OTHER WORK DONE PAYS BETTER THAN SPREADING MANURE.—BEST TIME TO SPREAD MANURE IS AS IT IS MADE

care for many times its present population. There is no place on earth where they cannot grow some kind of a leguminous crop and plow it in. I would like to see people raise a lot of leguminous crops every year and add to the lime they could use. Wherever you can raise good alfalfa there is plenty of lime still in the soil."

Another said, "I am satisfied my own farm is 50 per cent better than it was when I bought it. The land on which I have had corn for several years I am sure will raise better corn than when I began. I have better corn on it this year than the first year I raised corn on it, because I have each year given a light application of barnyard manure."

Closely associated with the question of fertilization was the subject which Prof. R. I. Throckmorton presented to the fruit growers assembled, namely, that of orchard soils. This is a question of great importance. Numbers of orchards have died as the result of poor soil conditions. In his remarks Professor Throckmorton pointed out that the fruit trees that have died by thousands over the state of Kansas during the last few years are silent witness to the fact that there must be something radically wrong with our conditions. The causes may be summed up under these heads: 1, poor climatic conditions; 2, lack of

ing operations there. This is more often true of home orchards than of commercial orchards. We find many over the state planted with no thought of the soil adaptation of that place. Like any other farm crop, when put in the wrong conditions the orchard will not thrive and do its best.

"A fruit tree is even more particular than some of our farm crops in its soil requirements," said Mr. Throckmorton. "A great deal of attention is given to locating the proper soil for the growing of alfalfa, but we hear very little about the proper location of fruit trees, and this should be given a great deal more attention. Your alfalfa field can be changed in a few years, but your orchard will remain in the same place for a long time."

"One of the most important essentials for the orchard is a deep soil. The root development is as extensive as the development of the top. When you consider this you find that we have an enormous root extension. If the soil is not deep you will have a stunted root development and with that you will have a stunted growth of the top. That will cause poor fruit development, and the stunted root development and retarded development of the top will render the tree more susceptible to disease. Trees growing in shallow soils usually will



WELL-KEPT ORCHARD.—THRIFT OF TREES INDICATES PRESENCE OF PLANT FOOD IN ABUNDANCE AND A SUITABLE ORCHARD SOIL

GENERAL FARM AND STOCK ITEMS

Something of Interest For All—Overflow From Other Departments

LOSS of soil fertility through erosion or soil washing is becoming more and more serious in the older and especially the more hilly sections of our state. Unless systematic measures are taken to check such losses a hilly or rolling farm can easily lose its capacity to produce paying crops. Measures to control soil washing might well be one of the projects kept to the front during the fall and winter season.

Large deep gullies in cultivated fields or in pastures may be filled with fodder, brush, weeds, or coarse straw, with rocks thrown on to weight down the material and prevent it from washing away. Soil gradually will wash in and be held by the vegetable matter and finally will fill the gully. Where such materials are not available a series of brakes or small dams across the gullies will aid in filling them and preventing erosion. The brakes or dams may be made by placing large stones in the gully, by fastening boards firmly in it by the use of stakes, or by making small concrete dams across the channel. The dams will check the current of water and thus cause it to deposit a part of the sediment it carries and fill in the depressions above each dam.

Wheat fields or fall-plowed land subject to washing during the winter or early spring may be held in place to a considerable extent by covering the field in the late fall or winter with a light dressing of straw or manure. This added organic matter will absorb large quantities of water and tend to break the force of small streamlets and prevent the formation of gullies.

A satisfactory method of stopping erosion on fall-plowed fields or fields that are to be plowed in the spring is by a shallow open ditch running diagonally to the direction of the natural flow of the water. The ditch should have a gradual fall sufficient to carry off the excess water of the field but not sufficient for the water to gain enough force to cause erosion in the ditch. The ditch should be placed far enough up on the slope to intercept the water before the streamlets have gathered enough force to cut the soil into ditches.

If the water cannot be carried away by one ditch, several ditches must be constructed close enough together to remove the water.

British Meat Prices

The following letter, received by John Clay from his brother, A. T. Clay, Edinburgh, Scotland, appeared in the Livestock Report and throws light on the present meat market in the British Isles. For convenience the British values quoted by Mr. Clay have been reduced to their American equivalent. The letter reads:

"The government here, as you know, has been for some time restricting the price of food stuffs and is contemplating doing the same with meat. The only result so far seems to have been to make meat so high that ordinary people can hardly buy it. I understand an order will shortly be issued commandeering so many cattle in each district per week or per month. I have just had a talk with my butcher, who tells me that he bought bullocks in 1914 at \$106 and the same class of bullocks he bought this week cost him \$330. In 1914 sheep were costing him \$12 and today they are costing him \$36. In 1914 beef was \$9.60 per hundredweight (112 pounds). Today it is selling freely at \$26.40. Roast beef here today is selling at 44 cents a pound or over it, and mutton just about the same. Chilled meat coming from America is being sold to the public at about 30 cents per pound."

The several United States Shorthorn breeders who have imported Shorthorns from the British Isles this past season were obliged to turn back all animals that in the judgment of the British authorities had been purchased too close to the beef value, a ruling having been put into force prohibiting the exportation of meat animals unless there existed a decisive margin between the selling price and the beef value. A number of pure-bred herds have been disposed of by their owners for beef purposes, as the present values for killing purposes seemed sufficiently attractive.

It seems reasonable to assume, in view of the condition prevailing in Great

Britain and which can scarcely fail to be emphasized in this country, that the producer of beef cattle has every encouragement to continue and expand his operations. The use of the registered sire will have the effect of increasing the number of pounds per head and shorten the period required for development. These are items that the cattle

the shoots of rhubarb to be slender and spindling. Three or four weeks after starting, a crop of heavy-leaf-stalks should be ready, and there should be an abundant supply for four or five weeks from the same roots. A half dozen roots should supply all that a family fond of this vegetable can consume, thus providing a cheap and appetizing relish for

is a proper mulch, if wheat or oat straw is used. If coarse straw is put on, the covering may be thicker, and if the ground is likely to heave badly it is well to use a coarse thick mulch.

Farm Accounts Profitably Used

It requires some effort to keep accounts of various farm operations. That accurate figures on the farm business are worth all they cost in time and money is the testimony of many of our most successful farmers. We have the report of a Missouri farmer who has been keeping accounts for several years and has found his figures most useful in assisting him to decide on changes in his business that would likely prove profitable.

For several years this farmer has been raising beef cattle and fattening them out on a farm of about 160 acres in North Missouri. He selected that enterprise as a man part of his business largely because he liked it. However, soon after starting, he said since he was a young farmer and had to make his way, he was going to apply the "acid test." He began keeping strict account of his whole farm business, paying particular attention to his cattle business. His record on cattle for 1915 is quite typical of what his records showed for the last several years. He found the average cost of keeping his breeding cows to be \$22.62 per head per year. The cost of the calves for the first six months was \$3.96, and for the second six months \$7.58, making a total of \$11.54 for the year. The calves were spring calves. Their cost of \$11.54 a head added to the cost of keeping the cow, \$22.62, made a total cost of \$34.16 for a twelve-months-old calf. Sixteen steers raised at this average price and therefore worth \$546.56 total, were carried as stock cattle on pasture for five months and then fed 107 days on corn, alfalfa hay, silage and oil meal. The total cost on the sixteen steers for the eight months and a half was \$1,136.59, or about \$71 a head. The steers sold at the end of the feeding period for \$1,130.50, and weighed 16,150 pounds. Included in the cost was interest on \$546.56 at 5 per cent for eight months and a half, 238 hours of man labor at 14 cents an hour and 52 hours of horse labor at 8 cents an hour. As this farmer did his own work and did not actually pay out the interest, he had this money left. He also had left the money charged for pasture as he used his own pasture, but the pasture charge made represented about \$3 an acre rent on the land, or about what would have been paid in cash rent for such land at that time.

The figures quoted are not the average of a number of farms and as they represent only one instance, prove nothing about the profitability or unprofitability of such an enterprise in general. They do show that farm accounts are of vital interest to every farmer in sizing up his own particular business problems. Every progressive farmer is interested in proof of what can be done and what ought to be done, but the first step in reform is to get the facts about what he is doing. The farmer referred to in this article has made some radical changes on the basis of his own findings. He is keeping equally close account of the changes, and the next few years' records will be of interest in showing the value of these changes. In the future both producer and consumer must know more about the facts of production.

Experiments have proved that silage is the best and cheapest form in which a succulent feed can be provided for winter use. A given amount of corn in the form of silage will produce more milk than the same when shocked and dried. Good silage when properly fed is all consumed, and there is less waste in feeding silage than in feeding fodder. Where such heavy protein feeds as cottonseed meal are used, silage should be fed liberally in the roughage part of the ration. Its succulence makes it palatable, and it has a beneficial effect on the digestive organs. Silage is the best roughage for dairy cows, not only under present extraordinary conditions but at all times.

A Prayer For Remembrance

God of the heart and hand,
Teach me to understand!

I have forgotten in the long, long years
All of my little childish hopes and fears;
It is so very, very long ago
Since I was in the world the children know;
I have forgotten what I used to play
And dream to do in that far yesterday,
All the wide wonder of my childish eyes
Since I have grown so old and worldly wise.
Yet now there comes with faces raised to mine
These little ones. Dear Father, they are Thine.
Teach me to lead them in Thine own true light,
Help me to guide their little feet aright!

God of the heart and hand,
Teach me to understand!

I know so little of the thought that lies
Back of the shining of those childish eyes;
I guess so little of the wonder there
Under the curling of the sunny hair,
It is so very, very long ago
Since I, too, knew the things that children know.
Yet hast Thou given them to me to lead.
Out of Thy wisdom grant me all I need—
Patience of purpose, faith, and tenderness,
Trusting Thy perfect love to lead and bless.
Help me to remember—ah! for this I pray,
Make me again the child of yesterday.

God of the heart and hand,
Teach me to understand!

—MARION B. CRAIG.

grower is obliged to consider in view of the increasing cost of maintenance.

Raise Winter Rhubarb

Every one who has a patch of pie-plant or rhubarb in the garden, or who can get a few roots from a near-by commercial plantation, can easily force an abundant home supply of this delicious and healthful vegetable during winter. Forced rhubarb is more attractive, tender and more crisp than the spring garden product, and it also is much less acid, so that less sugar is necessary in cooking it.

Strong one-year-old or older root stocks may be used for forcing this winter, but J. T. Rosa, Jr., of the Missouri College of Agriculture, suggests that plants which have become too old to produce a profitable crop in the garden be used. These roots or crowns are dug separately with earth adhering to them, before the soil freezes hard. Leave them on the ground a few days, so that the roots will freeze and the rest period thereby be broken, and so that the plant will start vigorous growth when placed in a higher temperature. If the roots are left out too long, they may dry out too much.

A cool greenhouse, deep hot bed or cellar of any description, or a basement room with earth or cement floor, will do for the forcing place if it can be heated slightly or if light can be excluded, and water obtained. When the rhubarb is ready for forcing the clumps of roots should be stood as close together as possible on the floor, and spaces between the clumps should be filled with sand, ashes or earth. Water the bed thoroughly just after setting, and as often as necessary afterward. The temperature ought to be low at first, around 40 degrees, while later it may run up to 60 degrees Fahrenheit. Take care that it does not get too warm, for that causes

the family at a season when fresh vegetables have disappeared from the tables.

Mulch Strawberries

If you have a strawberry bed, do not neglect to mulch the plants in the early winter. This protects them from the severe cold and, what is more important, overcomes the alternate freezing and thawing of early spring.

Sometimes thawing begins when the soil is frozen one or two feet deep. If six or eight inches of the ground thaws out and a sudden change of temperature causes the ground to freeze two or three inches, the expansion is so great as to break the roots. Then the roots are exposed to the atmosphere, and if dry weather follows, many plants will be killed.

Coarse slough grass is the best material for mulching. Common straw is good, but packs closely around the plants and shuts out the air. If this material is used, it must be watched, and if it gets too compact it should be loosened.

Care should be taken in selecting straw that has been thoroughly threshed, if wheat or oats straw is used. If poorly threshed wheat straw is used, the berry patch will be transformed into a wheat field in the spring. Straw that has been in the stack for a year is good for this purpose, although new straw is better if it is threshed well, because it is more easily handled and does not pack so tightly around the plants.

The bed should be mulched the first of December, if conditions are favorable. A prevalent idea among old fruit growers is that the bed should be mulched when the ground is frozen hard enough to hold up a wagon. If the ground is not frozen by December, however, the mulch should be put on anyway, and earlier if the soil is becoming dry.

A covering three or four inches deep

KANSAS FARMER DAIRY CLUB

Judging Dairy Cows

21 DEC 17

ONE of the Dairy Club members in Lyon County wrote of being very much disappointed because they did not learn why the cows were judged as they were at the Emporia show held in November. In other words, this member wanted to know exactly why a certain cow was given first place, another one second, etc. We were not there when the cows were judged, but in all probability there was not time to conduct a judging class where all the boys and girls interested could be present and ask questions and be given instruction on the points to look for in a dairy cow. We will hope that at some future time we can get together the boys and girls in the communities where there are a number of members and have some real lessons in stock judging.

Some of you have learned already that dairy cows do not look like cows that have been bred and developed for making meat. A real high-class dairy cow does not look good to one who has always been used to feeding and handling beef cattle. The dairy cow looks too scrawny and bony. She does not have that square, blocky appearance that we admire in the beef animal. Her hip bones are wide and the points stand out prominently. Instead of having hind quarters that are thick and meaty, the dairy cow's thighs are thin and hollowed out, especially on the inside where the udder is carried.

There are a good many points that an experienced dairyman notes in picking out a dairy cow when he is compelled to select one without having any production records to study. If he can look over genuine records of what the cow has done, he will not worry so much about the points of the cow herself. It is not very hard for a real dairyman to distinguish cows capable of producing 300 to 350 pounds of butter fat a year from those producing only 150, but even the best judges fail when they attempt to pick out the cows that will produce 400 or 500 pounds of fat in a year, simply by looking at them.

Keeping accurate records is the only sure method of selecting high-producing cows, and that is the reason we are so anxious to have you learn early in life how to keep milk cow records and what they mean to profitable dairy business. You should try and learn the main points to look for in dairy animals. Here is what Professor Reed of the Agricultural College wrote on this subject especially for Dairy Club members:

"The first impression one gets when viewing a high producing cow, or a photo of a high producer, is the marked angularity and thin, loose-jointed appearance. The thin appearance is not a condition caused by lack of feed, but the animal is well-muscled and neat, with the hair and skin in good healthy condition. The angular conformation is best described by the term 'wedge-shaped.' A dairy cow has three wedges. A wedge is noticed when the cow is viewed from the front, from the side, and also from above. The first wedge mentioned is formed by the withers being sharp at the top and the chest being wide at the base. The depth through the rear part of the barrel and udder tapering to the neck and head forms the wedge as viewed from the side. The wedge, as seen from above, is

formed by the extreme width through the hips gradually tapering to the sharp withers. The wedge shape is not extremely pronounced in all dairy cows, but is usually found in the best animals.

"The heart girth should be large, indicating lung and heart capacity. The back should be long, strong and loose-jointed, but not necessarily straight. The ribs should be long, wide and far apart. The abdomen or barrel should be long, wide and deep, especially just in front of the udder. A cow must have capacity of barrel to be able to handle large amounts of food. Often a cow will not show a great depth of barrel but may have a large capacity for food by having a greater width of barrel and wide spring of ribs. A strong jaw, keen eye, large muzzle and capacious barrel are the indications of ability to consume and digest large quantities of food, which is necessary for high production. The loin should be broad and strong, with roomy coupling.

"The hind quarters should show the leanness characteristic of other parts of the body. The hips should be far apart, prominent, and level with the back. The rump should be long and wide, with a roomy pelvis; the pin bones high and wide apart. Such a conformation of this region affords plenty of room for the generative organs and reproduction. The thighs should be long, thin and wide apart, with plenty of room for the udder. The legs should be fine, straight and far apart.

"The udder of the cow is one of the most essential organs, and is largely used as a determining factor of the ability of the cow as a producer. The udder should be capacious, free from flesh, and when empty should be soft and flexible. Capacity of the udder should be gained by length and width rather than depth. It should be attached to the body high behind and far forward toward the navel and show plenty of width throughout. This conformation permits of more surface for the blood vessels to spread over as they pass through the udder. The udder is the milk factory, where the nutrients are taken from the blood and made over into milk.

"By some unknown process in the udder the food materials taken from the blood are changed to the substances found in the milk. The milk veins serve as an index to the amount of blood that flows through the udder. These veins carry the blood from the udder back to the heart. They can be noticed leading from the fore quarters of the udder and running forward just underneath the skin and entering the abdomen near the center of the body. The milk wells, through which the milk veins enter the body, should be large. There may be more than one milk well on each side of the body. In some cases the milk veins branch as they leave the udder and enter the body in several places. Cows have been known to have as many as five milk wells on each side and it is not uncommon to find cows with two or three milk wells on each side of the body.

"The quarters of the udder should be even in size and not cut up; but the base or sole of the udder should be flat. The teats should be even, of good size for milking conveniently, and set squarely on each quarter of the udder. The hair



Somewhere in America

Laying submarine cable, hundreds of miles of it, to scores of isolated lighthouses is one of the telephone tasks made necessary by the war. The Bell System has also built lines connecting some two hundred coast guard stations.

It has built complete telephone systems for fifteen National Guard cantonments and fifteen National Guard camps, each a city in size, and also at many naval, officer's reserve, mobilization and embarkation camps and at army and navy stations.

It has provided an enormous increase in long distance facilities throughout the country, that satisfactory service may be maintained between cantonments, training camps, guard outposts, military supply stations, war industries, the National Capital and other centers of Government activity.

The Government facilities at the National Capital have already been increased three-fold and there has been a tremendous increase in local and toll facilities.

Fifteen thousand miles of telephone wire have been taken from other uses for the exclusive service of the Government and some 20,000 miles of telegraph facilities also provided.

Meanwhile the Bell System has given generously of its man power, until over seven thousand men are in service or recruited for military duty.

Members of the Bell System whether they have already gone to France or whether they have stayed at their posts to help mobilize the country for victory, are equally in the service of the Nation.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

on the udder should be fine and soft, indicating quality.

"The brief description given of what to look for in a good dairy cow, is based on the experience the writer has gained in studying dairy cows in a good many high-producing herds. One who follows these suggestions can be reasonably sure of selecting cows that are above the average in dairy production."

Study your cow and see if she fits with Professor Reed's description as to what a dairy cow should be. By doing this you can learn a great deal about the conformation or appearance of cows that are especially bred for milk production.

Keep Milk Clean

During the winter season when cows are housed much of the time, it is especially difficult to keep milk clean. The only practical way is to prevent the cows as far as possible from becoming dirty. The best method of doing this is to use the modern stall. This stall consists of a platform of proper length—fifty-four inches for Jerseys, and sixty inches for Holsteins; a stanchion—preferably a swinging stanchion—which will prevent forward and backward movement, and a gutter in the rear of the cow at least nine inches deep and sixteen inches wide to catch the droppings.

When the cow is tied in such a stall most of the droppings fall into the gutter, the platform remaining reasonably clean so that the animal does not become coated with manure every time she lies down. The manure should be removed at least twice each day, and plenty of bedding should be used on the platform.

If the udder and flanks are dirty at milking time, use a brush and wipe the udder with a damp cloth. A covered milking pail, which can be purchased at any dairy supply house, will keep from 60 to 70 per cent of the dirt out which otherwise falls into the milk from the cow during milking.

Filth in milk is sure to cause it to

sour or spoil, and no one likes to use dirty milk. The strainer can remove only the insoluble portions. One of the most objectionable practices in milking is that of wetting the hands in milk. You should learn to milk with dry hands and use a covered bucket. Cleanliness is the essential factor in producing milk of good quality.

Growth of Test Associations

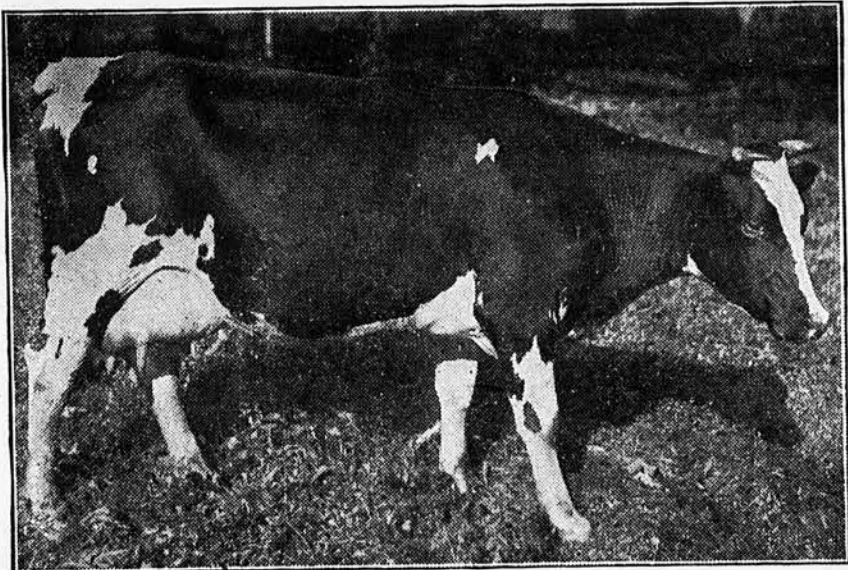
That co-operative cow testing associations are successful in this country is shown by the fact that since 1906, when the first association was organized, in Michigan, the number has increased steadily to 459 associations, in forty states. On July 1, 1917, there were 11,720 herds, with a total of 211,966 cows being tested regularly in these associations. The total number of milk cows in the United States at that time was 23,372,200, of which less than 1 per cent were numbered in these organizations.

The first cow testing association was organized in Newaygo County, Michigan, in January, 1906, is still in existence, and now has thirty herds with a total of 304 cows. The following year three new associations were organized in that state. In 1908 three were organized in Maine and one in New York. The next year five other states entered the list.

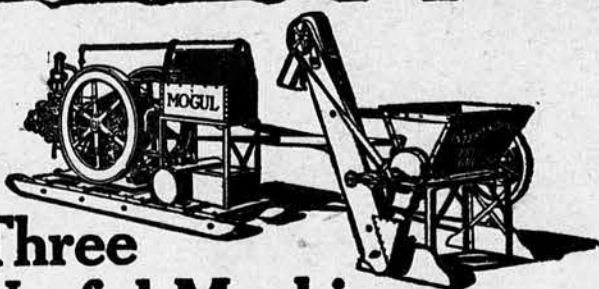
Wisconsin now leads in the number of associations, eighty-one being in operation in that state. Other leading states are Vermont with 47, New York with 43, Iowa and Ohio with 30 each, Minnesota with 26 and Pennsylvania with 24. During the year ended June 30, 1917, 95 new organizations were established.

Kansas has only four cow testing associations.

The following are things that go to make good cows: Good breeding, good sires, proper development of the heifers, not breeding heifers too young, liberal and proper feeding, accurate records, good care, healthy cows.



BESSIE DE KOL WALKER, REGISTERED HOLSTEIN TWO-YEAR-OLD HEIFER BELONGING TO GLEN BOMIG, TOPEKA, BEING MILKED IN ADVANCED CLASS OF KANSAS FARMER DAIRY CLUB



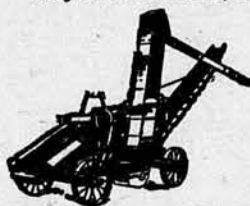
Three Useful Machines

THREE International machines that will pay their way on any farm where there is corn to market or livestock to feed are:

**An International Feed Grinder
A Keystone Corn Sheller
A Mogul Kerosene Engine**

International Feed Grinders, for grinding small grain, corn on the cob, or corn in the husk, come in three styles with regular or special plates, 6", 8", and 10" in diameter. Capacities from 5 to 30 bushels per hour.

Keystone Shellers, adaptable to large or small ears, shell hard or soft corn clean without cracking the kernels or crushing the cobs. There are eight styles in 1, 2, 4, and 6-hole sizes, with capacities from a few ears shelled by hand, up to 4,000 bushels per day.



Mogul Kerosene Engines furnish steady, economical power for these and other farm machines. They operate on the cheapest fuels. Mogul

kerosene mixers; built-in magnetos that make batteries unnecessary; enclosed crank cases; full equipment, ready to run; are features of all Mogul engines, from 1 to 50-H. P.

Equip your farm with a set of these three useful machines. See the local dealer or write the address below for complete information.

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Unprofitable Cows

Farmers are now selling their cows, and they are advised to sell their unprofitable cows. We wonder if any cows will be left in the country if all the cows are sold which are unprofitable now.

I recall a time when my father sold his cows and bought others which also failed to make profits. Finally, he planted red clover and pastured the cows on clover. At once he found several cows in his herd that paid well. From that time he studied feeding and soon had a herd of profitable cows without selling many.

We suggest that the "unprofitable cow" be properly fed for a time before she is sent to the block.—J. E. PATNE, Oklahoma.

Dairy Feeds This Winter

Never has it been more necessary for dairymen to study the relative values of feeds and the actual nutrient requirements for milk production than at the present time. The dairyman who does not avail himself of all the information possible on dairy feeding is lost in so far as profit is concerned.

Suggestions coming from the dairy department of the Missouri Agricultural College may help some of our readers. First of all they say it is important that some succulent feed be given a dairy cow at all seasons of the year. This can easily be done during the summer months, but in winter it is difficult. There is no better means of furnishing a succulent feed in winter than through the use of corn silage. It must be remembered that corn silage is not a complete ration, for it is high in carbohydrates and low in protein content. Furthermore, experience has shown that silage should not be fed as the only roughage in the ration. It is always advisable to feed some hay and the legume hays such as alfalfa, clover, cowpea, or soybean are best adapted for use in producing milk. It is a question just how much alfalfa hay should be purchased at prices which range from \$32 to \$36 a ton. Some legume, however, should be fed if possible.

A good ration of roughage would be what silage and legume hay the cows will readily consume. This will probably be about thirty to forty pounds of silage and eight to ten pounds of legume hay for a good sized animal.

In addition to the roughage the dairy

cow should receive a grain mixture. Corn even at its present price is one of the cheapest and best sources of digestible food and can hardly be left out of the ration. While it is a valuable feed and is very palatable, it must not be fed as the only grain in the ration, because corn, like silage, is relatively high in carbohydrates and low in protein. Silage and corn should furnish the greater part of the feed nutrients in the ration, with a small amount of a high protein feed added to give the necessary protein. Cottonseed meal and linseed meal are the cheapest sources of protein. Corn and cottonseed meal mixed together would furnish the necessary nutrients, but the mixture of these two grains is so sticky and pasty when it reaches the stomach that the digestive juices cannot readily act upon it. It is advisable for this reason to lighten it in some way, and this is usually done by feeding it on the silage with which it becomes mixed when eaten, or by adding a light feed such as wheat bran or beet pulp to the mixture.

A good grain mixture to be fed with the silage and legume hay would be one composed of four parts corn, one part wheat bran and one part cottonseed or linseed meal. These should be mixed together and the mixture fed at the rate of one pound grain per day for each three pounds of Jersey milk, or one pound grain for each four pounds Holstein milk produced. Another rule is to feed one pound of the grain mixture per day for each pound of butterfat produced in a week.

Stock hogs can now be bought in public stock yards, vaccinated, dipped, and shipped out the same day to any state except Missouri. The Missouri live stock sanitary authorities still require them to be held fourteen days. Stock hogs and pigs are coming to the central markets in large numbers and with such simple provisions for immunizing them and getting them out safely, more of these immature pigs should be going out to be finished on the soft corn which will never be marketable in any other form than as meat. Buyers from Nebraska and the Northwest have been taking the cream of the stock hogs so far offered at our big markets. Small farmers living near Wichita or Kansas City have apparently not taken advantage of this opportunity to get stock hogs.



Testing Increased Profits

SIX Jackson County, Missouri, dairymen, who have been members of the cow testing association for the last three years, were able to increase milk production 1,605 pounds, and butterfat production 81 pounds for each cow over the average production of their herds the first year. The increased income from each cow was \$46.90. The average production of their herds for the year before they joined the cow testing association is not known, but it is safe to assume that it did not exceed 175 pounds of butterfat per cow. The average production of their herds the third year of cow testing association work was 310 pounds of butterfat per cow.

This means that the butterfat production was increased 135 pounds per cow as a result of three years of keeping records and testing, and because of improved methods of feeding and management and a closer study of the business, which has been brought about largely through the cow testing association. At 53 cents a pound for butterfat, the average price received by the association members during the last year, this increase was worth \$71.55 for each cow. There was an average of 131 cows in these six herds which meant an increase of \$9,373.05 a year for their dairy products above what they received from the same number of cows before they became members of the cow testing association. Also, this does not take into account the increase in the value of the herd because of its higher average production and the consequent increased selling price of the cows and their offspring.

keep these records without help, and that the most practical means of getting assistance is to organize a cow testing association and employ a tester.

Improvement in dairy cattle increases the actual value per cow, decreases the cost of production and increases the profit.

The dairyman's winter feed problems are becoming more and more acute every day. Only the man with plenty of silage can enjoy untroubled dreams, for he knows that his cows are sure of the roughage part of their ration, and if necessary it will be possible to tide the herd over on silage along with a minimum amount of grain. Legume hays have reached almost prohibitive prices, and there is no indication that the maximum has been reached. No relief can be found in substitutes, for prices of other hays show the same upward trend. Straw and corn stover help some, but both lack palatability, and cows will not consume sufficient quantities of either to maintain a profitable milk flow. The only relief is the liberal use of silage, which is safely stored in the silo and no longer subject to price fluctuations.

FARM TENANCY EVILS

(Continued from Page Four)

land's, and in England the law protects the tenant in the ways just mentioned. Though the English farm remains in the hands of the same tenant family for generations, usually no long-time contract is made.

THE LONG-TERM LEASE

In this country we repeatedly hear the statement that we can make no great improvement in our tenancy system without adopting a five to ten-year lease. This is assuming that landlords are incapable of or unwilling to adopt a system that will be successful and that tenants are able and willing to build up the place if given time. Few good tenants can be induced to take up the worn-out farm and spend years in building it up for the owner. They can secure better places and generally do so. I have never seen anyone begging for a ten-year lease for an unprofitable farm. If the landlord has adopted a correct rotation, and has his place in good condition, the tenant may desire a long lease, but this will be of minor importance. No landlord will care to contract for a long period unless thoroughly satisfied that the tenant will continue honest, capable, and industrious. The good tenant who accepts that long-time but indefinite-time lease of "You may keep it as long as we get along well," is usually a sadder and a wiser man at the end of the period. As soon as the place is built up to a good state of fertility, the owner sells it or rents to a son-in-law, nephew, or second cousin.

The landlord can best make the tenant keep stock by offering terms whereby it is more profitable for the tenant to keep stock than to sell the crops. In every case, someone must make plans that are good for a series of years and someone must do the work necessary for the carrying out of these plans, and both land and labor must bring a reward or the business will cease. This will be equally true whether the land be farmed by the owner or the tenant. As farms vary indefinitely as to what crops will be most profitable, depending on soils, climate, market facilities, acreage of farms, cost of labor, prices of produce, etc., no specific recommendations can be made that will fit all cases. We can only point out the general principles involved, tell how some others have put these principles into working shape, and leave each one to work out his own problem with the help of these principles and examples.

NOTE.—Mr. Taylor, the writer of this excellent article on farm tenancy, is agricultural agent of Atchison County, Kansas.

About 100,000 manufacturers, wholesalers and other distributors of staple foods are now under the licensing provisions of the Food Control Act.

Real Food Producer

A high-producing dairy cow is a wonderful manufacturer of food value.

Following are some figures which reveal in a very concise manner the real worth of a good dairy cow. It is a foregone conclusion that even a good average dairy cow will produce food nutrients in a year's time in excess of that contained in the average steer.

The figures used in showing these valuations are those of the productions, both butter and milk, of the famous Holstein cow, Katy Gerben. In seven milking periods this cow produced an average of 674 pounds of butter from 16,446 pounds of milk, or a total of 4,715 pounds of butter and 115,120 pounds of milk. It is a fact of considerable significance that in these seven milking periods she has produced food nutrients in her milk equal to 39,879 pounds of beef. To produce this amount of beef would require forty-seven steers weighing 1,400 pounds each.

A word about the total valuation of the product of Katy for this period of time. At 10 cents a quart, the milk would be worth \$5,317. Her seven calves if valued at only \$150 each would bring in \$1,050. A total of \$6,367 would therefore accrue from her products in these seven milking periods. Still further significance would be attached to the valuation of her products, if the actual worth of the offspring of her descendants, also the value of the milk production of the females, were added to the foregoing figures. This would bring the total up to \$18,703.10. This cow was developed by the Nebraska Experiment Station and the figures are from its records.

Why Cows Are Unprofitable

There are a number of reasons for cows being unprofitable; they may lack breeding and individuality, many are underfed, frequently heifers are bred too young, poor care makes even good cows unprofitable, and disease, especially abortion, reduces profits. Any of these factors or a combination of several may result in low production. Conclusions of this kind can be drawn from the records of any cow test association.

To increase the production of herds it is evident that records must be kept, and those cows which do not have the ability to produce profitably must be eliminated to give the others a fair chance through proper feed, care and management. Experience has taught that few are able to



FALL PIGS MONEY MAKERS

CONDITIONS are favorable for feeding out fall pigs to good weights. Putting more weight on the present crop of pigs is the first measure toward increasing the supply of pork. Keep the pigs growing and in a healthy condition. Clean, warm pens with ample ventilation should be provided. Their shelter should be so arranged that they can get plenty of sunshine and exercise. Pigs should run to self-feeders as soon as they are large enough to eat grain. They should be allowed to help themselves to alfalfa meal, tankage, and corn.

"It costs approximately 11 cents a pound to produce pork under present conditions, with alfalfa pasture and corn at \$1.68 a bushel, according to experiments carried on at the Kansas Experiment Station," says Prof. J. I. Thompson.

"Although there is a large corn crop this year, the farmers have been bearish about feeding hogs. They have feared that the packers would weaken the market after they had responded to the call for more pork. The shortage of hogs should warrant high prices for the next year.

"The Government has attempted to stabilize the hog market and will use its influence so far as possible to keep the price above 15½ cents a pound, or a relative price of 100 pounds of pork to thirteen bushels of corn.

"With the support which the Government has given and with a large corn crop on hand, there is sufficient incentive to warrant not only breeding additional sows but developing fall pigs in good shape."

Safeguarding Beef Supply

It becomes more and more evident each week that there is a well-founded concern in regard to the maintenance of the beef supply. Information is current to the effect that in the British Isles the government has decreed that it is more important that the acres available for crops serve the immediate needs of the country in this extraordinary time by producing grains for human food than for the maintenance of the herds. We are informed that three millions of acres are being put under the plow—sod that has in many cases never known the plow before; pastures that have raised grass and grass only for generations, and meadows of long standing will be converted into tilled fields that wheat, oats, barley, corn and other crops suited for human food may be produced. The argument is that the British Isles can better rely upon the United States and other cattle-producing countries where land is cheaper and range more abundant. It is argued that dressed beef can be advantageously imported; that under the circumstances it will be a real economy to do so.

And so it is that the British Isles will promptly reduce its cattle supply, if we are correctly advised and there seems no doubt of it, and that the market of the United States beef producers is increased proportionately. Time will come when these pastures and meadows to be broken up must be again seeded and the fertility restored by means of herds and flocks, but that will be in the days to come after the war, and the replenishing process will be slow indeed.

That the cattle stocks of Germany, France and other European nations affected by the war are being steadily diminished has had official recognition and in the United States there is every indication that we are barely holding our own. The prices available to the beef producer induces him to sell closely. The cost of feed has reached such a high plane that the cattle producer inclines to dispose of his surplus and hold his stock to the minimum. It induces many to dispose entirely of their herds in order to take advantage of the present available prices for hay and grains. The farmer is willing for the time being to draw and draw heavily upon the fertility of his soil, that he may take advantage of these alluring prices.

What does it all mean? It means the depletion of our cattle supply; or, if not actual depletion, it prevents the increase of which the world now stands so much in need.

With this condition everywhere recognized and with the appetite for beef be-

ing encouraged among the men composing the armies of all the warring countries, it is inevitable that there will be a permanent and growing inclination to beef consumption after the war. We do not need to be told that beef consumption at present in America is being held to a minimum level at the urgent request of the food conservation department. Meatless days are becoming more frequent and we conform to the request the more cheerfully because of the high prices we are compelled to pay over the counter. But when these meatless days are no longer demanded and when prices settle a little, how eagerly we will anticipate the juicy steaks and roasts. We will not hesitate to gratify our appetites and beef consumption in America will tremendously expand. It is apparent to any observer that a decrease in meat prices of 20 per cent would increase beef consumption 50 per cent, were the food conservers' restrictions to be removed, as in time they will be.

So the producers of beef cannot be otherwise than encouraged by the prospect for the demand that will continue not alone through the duration of the war, but for that long reconstructive period that will follow in its wake.—FRANK D. TOMSON.

Corn and Skim Milk

Poor results are sure to follow feeding corn alone to young pigs, and seldom is there any profit in feeding corn alone to fattening hogs. The Ohio Experiment Station recently reported on the results of feeding skim milk to pigs with corn. Two pigs weighing forty-three pounds gained a third of a pound daily for fifteen weeks when fed only corn. Then for eight weeks on corn and skim milk they gained one and three-fifths pounds daily.

Nearly seven pounds of corn was needed to produce a pound of gain in live weight when only this feed was given to the pigs. Only two pounds of corn was fed, along with eleven and one-fourth pounds of skim milk, for a pound of gain during the second part of the experiment.

Feed cost 8.56 cents per pound of gain from corn alone, and only 4.88 cents from the corn and skim milk ration.

Tankage and linseed oil meal have also proved profitable to feed in combination with corn for hogs. Relative prices, feed required for a unit of gain, and rate of gain that may be expected, the bulletin points out, will determine which supplement to use.

Care of Brood Sow

The successful raising of a crop of pigs requires that much forethought and attention be devoted to various phases of brood sow management.

The brood sow, if a gilt, should be as growthy as possible, medium to good in condition, but not fat. It is well that the gilt make a reasonable gain during the breeding season. If the sow is mature and has been carried along on good pasture during the summer with only enough grain to keep her from losing excessively in weight, an increased grain ration and the addition of a fifth to a third of a pound of meat meal tankage will be of benefit at breeding time. The sow which is gaining is more liable to conceive with less services and produce a larger litter than a sow which is barely holding her own or losing weight.

Dry, well-bedded sleeping quarters are in order. Exercise is to be encouraged. Lice must be controlled. Water and feed in sufficient amounts to keep the sow gaining during the entire pregnancy period must be provided.—RUSSEL DUNN, Iowa Experiment Station.

Merry Monarch, the grand champion Shorthorn steer at the International Live Stock Show, was purchased in the auction ring by the American Shorthorn Association at \$2.05 a pound, a record price for an International champion. This pure-bred Shorthorn steer weighed 1,610 pounds, making the gross price \$3,300.50. The Shorthorn Association immediately instructed the auctioneer, Colonel Gross, to resell the champion, the proceeds to go to the American Red Cross. He was sold the second time to Armour & Company for \$2.10 a pound.

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EIGHTY ACRES, 4 1/2 miles from Osage City; 45 acres in cultivation, balance grass, north slope; 4-room house and summer kitchen, cellar and good well; barn for 10 head with loft; wagon and cattle shed, two hen houses. Must sell. Price, \$3,200. \$1,700 can run four years at 5 per cent. 240 acres of grass, can be used for hay or pasture, 3 miles from shipping point. \$40.00 per acre.

RENTSTROM'S AGENCY, Osage City, Kansas

"One hundred hens on every farm—100 eggs to every hen." This is the slogan adopted by some of the Government poultrymen in charge of the work under way to encourage greater production of poultry meat and eggs. The average size of the farm flock in the United States is only forty hens. It is estimated that an average of 100 hens would increase the poultry supply 6,500,000 pounds this coming year. Some farms can have several hundred while others should keep less. There should be at least enough to produce poultry and eggs for home consumption and thereby add to the profit of the farm. A pound of poultry meat can be produced more quickly and with less cost for feed than any other. The average chick will increase its weight from twenty to twenty-five times or more in the first twelve weeks. Can you beat it with hogs, or cattle, or sheep? Do you wonder that the Government is urging maximum poultry production?



Storage Poultry Being Sold

ONE of the important acts of the Food Administration was that of enforcing the law and compelling storage stocks of poultry to be moved before the quality could be materially lowered. People will not buy poultry which is unpalatable, and if the price is too high they will reduce consumption.

In an open letter addressed to the president of the American Poultry Association, the writer, who is connected with the American Incubator Association, comments on this order to sell out stocks of storage poultry. He says:

"Doubtless these storage men feel that they are being discriminated against because they are bound to lose some money in consequence of the order from Mr. Hoover's department, and no one will withhold a passing vote of sympathy to them. But the facts are that the storage men committed a great commercial error within the past year. They stocked heavily with frozen poultry at rather high prices a year ago expecting to unload at a good profit during the usual season. The market did not advance as they expected so they concluded to carry the stock over still another season for disposal in 1918. This accounts to a large extent for the heavy storage holdings November 1, 1917. Between 25 and 35 per cent of these holdings were 1916 stocks, which laws in nearly all states say should be sold within twelve months.

"With the knowledge of these conditions and prompted by the recently enacted federal law, directed at speculators, prohibiting the hoarding of foodstuffs, the Food Administration advised the storage men to get busy and unload stated percentages during each month to clean up by March 1, next. This order went out November 15. The alternative provided by law is for the Food Administration to seize and sell at auction.

"For the storage men to think that the whole poultry industry would be demoralized, that the consumer would not buy frozen poultry now while fresh stocks continue to arrive in market and that the producer would suffer, etc., is all 'tommyrot.' As a matter of fact it is bound to work out just conversely.

"I will not take the time to tell you how surprisingly well the matter had developed in the two weeks preceding Thanksgiving Day—how the big State of Texas cheerfully submitted to an embargo against shipping out live turkeys until December. The one thing alone has resulted in increasing the Texas turkey crop 500,000,000 pounds more meat for the nation. In November, 1916, their shipments totaled 250,000 carloads of frozen turkeys. Through the Housewives' League the women of the land were urged to ask for and buy frozen turkey this Thanksgiving instead of fresh stock and whereas the holders had previously been most insistent in their contention that 'it couldn't be done,' a letter from the head of the largest wholesale distributing house in the country, in New York, stated that they expected that all turkeys in storage would be gone before Thanksgiving and that chickens would move quite as readily.

"In the name of all that is patriotic and from the standpoint of the producer and the consumer alike, I ask you not to be influenced by the foolish argument of interests which are not given over to the common cause. The Food Administration were well aware of the fact that they would be the subject of severe criticism from the holders, but the law was plain and it was for them to call attention to the law. It was for them to prevent the further holding of frozen poultry which constantly—and rapidly at such a stage—loses its quality and may even become poisonous unfit for use, and most of all to see that storage stocks are cleaned up in plenty of time to create a healthy active condition in the market next spring when all producers will be scanning the quotations to see how far they shall let their patriotism carry them in responding to the nation's call for record poultry production."

Kansas State Poultry Show

The premium list of the Kansas State Poultry Show is now ready for distribu-

tion and a copy can be had by applying to the secretary, Thomas Owen, Route 7, Topeka, Kansas. The show is to be held at Wichita, January 7 to 12, 1918, and will be one of the largest and best poultry shows in the West. Liberal cash prizes will be given, as well as several specials in cash and silver cups. The educational features of this show have been made more prominent than ever. Several expert poultrymen from the Kansas Agricultural College and Washington, D. C., will deliver lectures, and practical poultry demonstrations will be given.

Prepare for Big Business

My advice is to get ready for a big poultry business in the spring of 1918. With corn, corn meal and other poultry feed on the decline and with eggs and poultry prices advancing to a reasonable figure compared to the cost of production, I feel certain that the time is at hand when poultry and eggs are going to be in demand for hatching, breeding and market purposes, and at profitable prices. At no time in the past few years has it seemed to me that poultrymen could go into the season with a greater assurance of success and a reasonable profit than just now.

The Government is sending out a large force of men to help educate the public and to encourage production. They insist upon every back yard and every general farm being used to the limit for the purpose. The U. S. Department of Agriculture says that no kind of live stock can be produced so rapidly or economically as poultry and eggs. The food administrators say that poultry feeds will be from 25 to 40 per cent lower than they were last fall. These facts should interest and encourage every one interested in any branch of the industry.

Begin now to get ready for a good season's business. Don't wait until the hatching season is on, but get out your old incubator and clean it up. See that the parts are all there, that the tank don't leak and that the burner and everything is clean and in first class condition. If you are going to need a new incubator you may not be able to get one if you wait until the last minute. There is going to be a big demand, so place your order now.

Take a final look at the breeding stock. See that they are all in good health and lay eggs with firm shells. Cull out those which lay small-sized and off-colored eggs. Every poultryman should have his breeders all selected and mated by January 1. Don't breed from the whole flock if you have a large number from which to select, but pick out your choicest females and mate with your choicest males. That is the only way to make real progress.

See that the water in the drinking pan does not remain frozen. Plenty of water is just as important in producing winter eggs as is the right kind of feed.

If you are going to need a male to head your pen, or will need eggs for hatching, you had better place your order now. The demand is going to far exceed the supply. The earlier you place your order, the better selection you will get.—T. E. QUISENBERRY, Leavenworth.

Poultry House Floors

A floor of earth in a poultry house needs to be renewed at least once a year. If the droppings that fall upon the floor are carefully removed at frequent, regular intervals, much of the earth is removed with them. If the regular cleaning of the floor is superficial, the earth of the floor to a depth of several inches becomes so mixed with droppings that its condition is very insanitary.

If used on the garden, the manure obtained by removing the earth floor of the poultry house will compensate for the labor of renewing the floor, and the new earth required can be taken from a convenient spot on the farm. When the poultry keeper must pay someone else to take away the old earth and bring in new, the cost will in a few years exceed the cost of a cement floor.

The principal fault of a cement floor is that it is likely to be cold and damp.

Make This Your Money Year

POULTRY and eggs are going to be the big money-makers this year. Hoover is beseeching little and big poultry raisers to double—triple—quadruple their products. We should raise twice as much poultry and eggs as we did last year. And prices will remain high—and go higher. The demand will take care of that. Why? New York City alone consumed annually One-Half Billion More Eggs than the greatest egg-producing state in America yielded last year! Get wise. Get hatching started quick! Plan for bigger hatches of better chicks. Get a hatch-increasing wonder—a

1918 X-Ray Incubator

Combines 20 Exclusive X-Ray Features. Completely hatches on only one filling oil. During entire hatch, Duplex Central Heating Plant—directly underneath, gives natural, moist motherhen heat. X-Ray Automatic Trip regulates flame—no chilled eggs—no overheated sides. Read all about its 20 remarkable hatch-increasing, labor, time and money-saving features—and remember, it is shipped

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Hot Water—Copper Tank—Double Walls of Fibre Board—Self Regulated. With \$5.25 Hot Water 140-Chick Brooder, both only \$12.00. P. P. H. Book, Satisfaction Guaranteed. Share in my \$1000 in Prizes. Conditions easy. Order now or write today for my Free Book, "Hatching Facts"—It tells all! Jim Rohan, Pres.

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These conditions may be corrected by covering the floor to a depth of an inch or two with dry earth or sand, using over this scratching litter of straw or wood shavings. Floors so treated require as much routine work to keep them in good order as earth floors, but the supply of clean earth required is much less and the work of annual renovation is eliminated.

Incubators and Brooders

No farm equipment is complete in this present day and age without a good incubator and brooding device. In the words of W. F. Priebe, of the United States Food Administration: "Farmers without incubators are like an army without arms."

We do not as a rule make sufficient effort to hatch early so that the chicks will have the advantage of a longer and more favorable growing season. Late-hatched chicks rarely, if ever, attain the size of those hatched earlier. Early hatching likewise influences early maturity and that means early egg production. Hens do not generally go broody early in the season. They cannot be depended on for early hatching. It is the profitable bird, the winter layer, that is showing the early broodiness. She has been laying during the season of short production and high prices and is following Nature's instinct to want to set and raise her young. Incubators are essential, therefore, both to hatch early when broody hens are scarce and for the added important reason that the hens which are broody early in the season should be broken up and returned to laying so that their eggs may be used for hatching. It is the winter layer whose blood should be perpetuated.

Poultry needs green feed. Mangels, beets, carrots and cabbage are very good. These furnish food and act as a conditioner. Hang them up or nail to wall which will keep them clean and at the same time be convenient for the birds.



Large Wheat Acreage Sown

ONLY once before has a larger area been seeded to winter wheat in Kansas, and that was a year ago, when 9,587,000 acres were sown. This statement is made by Secretary J. C. Mohler of the State Board of Agriculture in reporting on the acreage and condition of the winter wheat sown in Kansas this fall.

The total acreage as reported is 5.18 per cent less than the ten-million-acre stake set by the Government for Kansas, but the official assessors' returns next spring may reduce the difference, as sowing is still under way to some extent in thirty or more western counties where dry weather has been protracted.

Correspondents of the board, who are always cautioned to be conservative, estimate that 9,482,000 acres were sown to winter wheat in Kansas this fall, or 1.1 per cent less than the average seeded in the autumn of 1916. Based on 100, the general average condition of the state's growing wheat is given as 70.1 per cent. This is lower by 5.8 points than was reported for the wheat of a year ago, and is under any fall condition reported by the board in recent years. Dry weather is the cause. Conditions have been inhospitable for the sowing, germination, and growth of wheat in the western two-thirds of the state, excepting in a half dozen counties or so. In the eastern third conditions have been quite favorable.

In counties where the acreages sown to wheat are less, growers attribute the falling off mainly to lack of moisture, high price of seed, and insufficient labor. The price of seed, however, is infrequently given as a cause outside the territory where the crop failed this year and seed had to be imported. In a few counties the increased acreage planted to corn last spring cut down the area for wheat this fall, and now and then reporters credit reduced sowings to dissatisfaction with the government price.

Of the eleven counties leading in wheat acreage sown a year ago, having 200,000 or 300,000 acres or more each, all except one report less sown this fall. A largely increased area has been seeded in the eastern third of the state, Allen County reporting the greatest percentage of gain, or an acreage nearly doubled. It is in this region, too, where the best conditions are found, Johnson leading with 94, followed by Anderson with 92, Atchison, Crawford, Linn and Wabaunsee 91, and Bourbon 90. It is here also that any considerable pasturage has been provided by the fall-sown wheat. Elsewhere there has been little or no wheat pasturage. In many western fields the wheat is not yet up.

Considering the disappointing crop year in the major portion of the wheat belt, and the handicaps of the situation this fall, to sow the second largest acreage of wheat in the state's history does the Kansas farmers great credit. It suggests a determination to brook no obstacles that human agencies can overcome in the discharge of their obligations to produce food in maximum quantities. A heavy initial investment, represented in facilities, funds, time and labor employed, and amounting to millions of dollars, has been made to provide the first essential toward supplying the world with bread next season, a large wheat acreage. This expenditure on a single crop, the outcome of which now rests largely with Providence, is splendid evidence, if any were needed, that the farmers are wholeheartedly assuming their responsibilities in the present food crisis.

Wheat Needs Rain

A. P. Ridenour, of Seward County, writes as follows regarding crop conditions in that section of the state:

"Early-sown wheat came up, but is perishing from lack of moisture. The late-sown has not sprouted. A few are still sowing. We must have rain soon or there will be no wheat in this locality.

"The milo, feterita and kafir are being threshed. Yields are running low, from two to eight bushels to the acre. Broom corn is about two-thirds of an average crop and is selling for from \$150 to \$300 a ton, depending on the quality.

"Eggs are bringing 40 cents a dozen and butter 45 cents a pound. The cattle are pretty well sold out and few are being fed for the beef market. Very few hogs are ready for market. All kinds of stock are healthy and doing fine and prices are good except for horses, which are low."

Saving Soft Corn

Soft corn constitutes a considerable per cent of the crop this year. In every field there is more or less corn that is too immature to crib without seriously endangering the keeping qualities of the whole crop. We have already learned of instances where it was necessary to spread out corn which had begun to heat. How to handle the crop under these conditions is one of the serious problems confronting the corn grower this year. C. W. Raymond, of Raymond Stock Farm, Illinois, makes the statement that much of this soft corn can be saved by proper ventilation of the crib and the use of eight quarts of common barrel salt to the forty-bushel load of corn. This is an entirely new idea to the writer, and one concerning which we have had absolutely no personal experience. It is supported, however, by letters from quite a number of Illinois farmers who have tried this method of saving an immature crop from spoiling in the crib.

The Illinois Experiment Station has investigated this matter, and reports as follows: "From the investigation of the experience of many farmers and of the results of a few fairly comparable trials, the Illinois Experiment Station encourages the application of six to eight quarts of salt over each fifty bushels of corn when placed in the crib."

Prof. L. E. Call, of the Kansas Experiment Station, advises that corn too soft to crib be utilized as rapidly as practicable for feeding hogs or cattle. The dry matter in soft corn is practically equal to that of well matured corn for feeding purposes, and when properly fed produces satisfactory results. Soft corn, however, that has been allowed to mold or rot is unsafe to use as feed. He warns against attempting to crib or store soft corn—corn that contains 30 per cent or more of moisture. Such corn is sure to spoil.

If stock is to consume the crop, the best way to handle soft corn is to allow it to remain in the field or shock and husk it as it is needed for feeding. Less waste will take place if the corn is in small shocks, so constructed that the air will circulate freely through them.

Corn that contains from 20 to 30 per cent of moisture may be safely stored in narrow cribs that permit of a free circulation of air through the sides and bottom. It is dangerous, however, to crib corn containing that amount of moisture in large bins unless some provision is made for ventilation.

Corn that contains a small per cent of soft ears but is otherwise in condition to crib may be safely stored by sorting out the immature ears. This will require considerable extra work and expense, but under the present conditions this practice will be profitable in most cases. If the soft ears are cribbed with the good corn, they will rot and possibly will injure the sound corn in contact with them. Such spoiled corn would be dangerous for feeding purposes and would have to be sorted out before it is used for feed. Furthermore, soft corn can be utilized to advantage if fed as fast as it is sorted, thus avoiding loss from rotting.

Sorting out the soft ears can be done to the best advantage when the corn is cribbed, although it can be sorted at husking time. A box attached to the wagon makes a convenient place to put the soft ears when the sorting is done in the field.

Origin of Domestic Hen

From the small wild jungle fowl the highly efficient domestic hen of today, with a production of 200 eggs, has been developed.

The jungle fowl of India is a small sized bird with little meat and lays only a clutch or two of eggs a year. Increased production is the most notable

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effect of domestication. Most breeds average approximately 100 eggs a year. In modern breeds the birds are heavier, making them excellent for food purposes. The reason for this change in life habits and actual make-up is intelligent selection for size and number and size of eggs, better feeding, and general environment resulting from domestication.

Through use of incubators the hen is losing the desire to sit. In fact some breeds have already so completely lost this instinct that they are termed "non-sitters." In the wild state the birds had the tendency to mate in pairs or at least in small groups, but the conditions of domestication have developed a polygamous nature.

Granulated charcoal is of great value

in the poultry ration. It absorbs gases and corrects digestive disorders. It may be mixed with the mash or fed alone in hoppers or boxes. Do not fail to keep grit and oyster shell before your hens either in a self-feeding hopper or in boxes. At this season of the year fowls cannot pick up grit and mineral material needed as readily as in the summer.

The vitality of the race has been lowered largely through artificial conditions and inbreeding. The domesticated bird is not so hardy and is less disease-resistant than the jungle fowl—a condition not surprising in view of the artificial conditions under which the birds have been forced to live.—F. E. Fox, Kansas Agricultural College.

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

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AYRSHIRE BULL, KANSAS MASTER No. 19965, for sale. Quiet, good breeder, well marked. Address G. F. Wagner, Manhattan, Kansas.

HIGH GRADE HOLSTEINS FOR SALE—One cow fresh in January, one heifer fresh in December, one yearling and two heifer calves. J. E. Regier, Whitewater, Kansas.

FOR SALE—MY HERD BULL, SIR Siemke Korndyke No. 148726, born January 31, 1914, and two registered Percheron mares five and ten years old, black. J. M. Beach, Maple Hill, Kansas.

HIGH-GRADE HOLSTEIN CALVES, either sex, 15-16ths pure, beautifully marked and from high producing dams, four to seven weeks old, \$25 crated. Express paid to any station. Reliance Stock Farm, Whitewater, Wisconsin.

BABY CALVES, HOLSTEIN, PURE-bred, either sex, priced right. Also a few choice grade heifer calves, practically pure-bred. Crated and express prepaid to you at \$25 each. Sunnyside Farm, Route 1, Jefferson, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, from heavy milkers, five to seven weeks old, beautifully marked. \$23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

DOUBLE STANDARD YOUNG POLLED Durham bulls, \$100 to \$150. Heifers, \$100 to \$125. Good grade bulls, \$75. Crown Prince at head of herd. Also good coming yearling jack and one extra good coming three-year-old, at reasonable price. W. C. Baumgartner, Halstead, Kansas.

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TAKEN UP—BY R. J. BOYER, OF Meade, Kansas, on the 29th of October, 1917, two 2-year-old steers, red, cross on left sides, value \$65. W. W. Pressly, County Clerk.

TAKEN UP, BY AUGUST PETERSON, October 15, 1917, one heifer about 10 months old, black, no horns, no marks or brands. Taken up in Lost Springs Township, Marion County, Kansas, and appraised at \$25. J. H. Alexander, County Clerk.

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To become a human beast, thinking only of one's own interests and living only for one's self, is a worse fate than to be killed by German shrapnel in No Man's Land.

Christmas candy that requires little or no sugar is a gift to our allies as well as to the recipient.

The sign on the door of opportunity reads, "Push."—I. F. K.



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

They all were looking for a king
To stay their foes and lift them high.
Thou cam'st, a little baby thing
That made a woman cry.

O Son of Man, to right my lot
Naught but thy presence can avail,
Yet on the road thy wheels are not
Nor on the sea thy sail!

My how or when thou wilt not heed,
But come down thine own secret stair
That thou may'st answer all my need,
Yea, every bygone prayer.
—George Macdonald: That Holy King.

Christmas in War Time

How much should our Christmas giving be curtailed in the present emergency? Dispensing with the usual holiday gifts altogether would certainly not be a necessary or wise economy. On the other hand the extravagant and often thoughtless giving of which we have all been more or less guilty in the past is clearly out of place. Let us give more of our hearts and less of our pocket-books this year.

The children must not be denied their Christmas, but they will be just as happy if their presents are not too many and elaborate and if some of the gifts are not entirely useless.

The Children's Holiday

Christmas is peculiarly the children's day. "For one little child's sake all the world is glad." It is the children who enjoy the holiday most and who contribute most to the pleasure of the grown-up members of the household in the festivities of the season.

What should Christmas mean to the wee ones, and how can we help them to get the most out of it? We should not foster selfishness by teaching them to think of Christmas merely as a time of receiving. Let them share the pleasure of giving also. And let us not fail to teach them the real meaning of Christmas. Tell them if you wish of Santa Claus, but do not fail to tell them also the wonderful story of the Babe in the manger, the angels appearing to the shepherds as they watched their flocks at night, and the wise men who followed the star. They will lose their faith in Santa Claus after a while, but the real Christmas story will mean more to them with each succeeding Christmas.

Ways to Use Left-Overs

In the elimination of waste and the utilization of odds and ends left over from the table, the average home has much to learn from institutions, which of necessity must be run on a strictly economical and business basis. In most institutions the waste is carefully watched, and in some cases this work is considered worthy of the services of a highly paid person.

The grease, for instance, does not go into the garbage pail, but separate pails are kept for this purpose, one being used for the raw suet trimmed from meat before it is cooked, another for the solid fat that has been used for frying, and another for scraps and bones. Waste is also reduced by judicious serving. Small portions are served at first, and second helpings given if desired. Skin, bone, gristle, and fat, which will not be eaten, are not served, because if not served they can be used for soups and the like. If more food is prepared than is needed, it is used in a tempting and appetizing way for a later meal.

The housewife in her own home, cooking for the same number of persons each day, will be able to reduce the amount of left-over food to the minimum by learning about how much will be used by her family and planning to serve only as much as will be eaten. She should also study to make the best use of what is left.

The most common left-overs are meats, vegetables, cake, bread, and fruits. Miss Flora S. Monroe, manager of the cafeteria at the Kansas Agricultural College, suggests that left-over meats be utilized by making croquettes, hashes, stews, or scalloped meats. If only a small quantity of meat is left it may be combined with potato, rice, macaroni, or cheese.

Variety may be given by using a tomato or creamed sauce. The acid of the tomato is not only appetizing, but it also aids in the digestion of the meat. Combinations of vegetables may be scalloped, made into croquettes, vegetable hashes, creamed vegetables, or used in soups. Cake that is a little dry may be served with a lemon, chocolate, or custard sauce.

Stale Bread in Dressing

In our home a favorite use for dry bread is in meat dressing. The bread is broken into small pieces, moistened with rich chicken or meat broth, or hot milk, and one or two beaten eggs added, according to the amount of bread used. If served with chicken, the giblets are cooked, run through food chopper, and mixed with dressing. Salt, pepper, and seasoning are added to taste. The seasoning may be sage, fresh or dried parsley, celery salt, or fat in which an onion has been fried, the onion itself being removed so that the flavor is delicate. The dressing is baked until a delicate brown. It may be served without meat, in that case adding oysters, moistening the bread with the liquid from the oysters instead of broth, and using a little butter.

Cold toast may be used in dressing. Some people prefer dressing made from toasted bread.

Vegetable and Cream Soups

A French writer has said that soup should be to a dinner what the overture is to an orchestra or the porch to a house. It is a good introduction.

The meat extractives contained in a clear soup promote the flow of gastric juice and so prepare the stomach for the entrance of solid food. Milk soups or cream soups, which are prepared by adding to thin white sauce an equal amount of vegetable pulp, are both nutritious and appetizing. They furnish an excellent means of using skim milk. Vegetables are necessary to keep the body in health because they are relatively rich in mineral matter. Vegetable soups or purees are made by boiling potatoes, tomatoes, beans, peas, corn, or a combination of vegetables until soft, mashing them through a sieve, heating with water, milk, or meat stock, and seasoning. Their use is often a real economy since they afford a way of utilizing odds and ends of vegetables, especially left-overs and parts which would otherwise be wasted.

TOMATO SOUP I

2 cupsful tomato juice
2 slices onion
1/4 teaspoonful pepper
1 teaspoonful salt
Bay leaf.

Mix ingredients together and heat, strain and serve.

TOMATO SOUP II

2 cupsful tomatoes
2 teaspoonfuls sugar
1 teaspoonful salt
2 slices onion
4 cupsful milk
1/4 teaspoonful soda
4 tablespoonfuls flour
4 tablespoonfuls butter
Bay leaf and spring of parsley if desired.

Scald milk with onion, remove onion, make white sauce of milk, flour, and butter. Heat tomatoes, add soda, and rub through a sieve. Stir tomato into milk, add seasonings, and serve. The onion and the sugar may be omitted if preferred. Instead of flour, twice the amount of bread crumbs may be used.

POTATO CHOWDER

6 medium-sized potatoes, cut in small cubes
1/4 pound salt pork, diced
1 tablespoonful onion, chopped
1 tablespoonful fat
1 pint milk
1 pint water
1 teaspoonful salt
1 tablespoonful flour

Cook the pork and onions together until a delicate brown. Add this mixture and the water to the potatoes. Cook until potatoes are tender but not mashed. Make a white sauce of the fat, flour, and milk, and add it to the potatoes. Serve hot.

CORN CHOWDER

Add one can of corn to potato chow-

der in which the amount of potato is reduced.

Nut Maple Loaf

- 2 cupfuls brown sugar
- 2 1/2 cupfuls boiling water
- 1/2 cupful cold water
- 1/2 cupfuls cut nut meats
- Pinch of salt
- 4 egg whites
- 1 teaspoonful vanilla

Pour boiling water on sugar, add cornstarch wet in one-third cupful of cold water. Cook over direct heat until mixture thickens. Return to double boiler and cook fifteen minutes, stirring occasionally. Add cut nut meats, flavoring, and stiffly beaten egg whites. Mold, serve with whipped cream or with the following foamy egg sauce:

- 1 egg
- 1/2 cupful sugar
- 1 teaspoonful vanilla
- 1 cupful hot milk

Beat egg until very light, add sugar, and continue beating. Just before serving add the hot milk, beating the egg as the milk is slowly poured in.

Twilight Animal Stories

Bumper The White Rabbit

By George Ethelbert Walsh

(Copyright, 1917, by George E. Walsh)

STORY VII—BUMPER MEETS THE SEWER RAT.

BUMPER was so young and inexperienced that he didn't know a drain-pipe from an ordinary hole in the ground, nor for that matter a tree trunk that was hollow inside from a rabbit's burrow. Bumper was a city-bred rabbit, born in the back yard of a tenement house, and how could you expect him to know much of the things that ordinary wild rabbits learn by heart before their whiskers begin to sprout?

When he opened his eyes the next morning, he stretched himself, and blinked hard at the circular roof over his head, wondering what sort of a house he was in now. It took some time for his brain to recall the events of the previous night. Then he sat up and smiled.

"Ho! ho!" he laughed. "Carlo must have had a long, cold wait outside for me. I think I'll take a peek at him."

He was really anxious to see if the little girl was up yet, and if she had missed him. He had perfect confidence in her, and knew that she would call of the dog the instant she saw him.

Bumper could see that it was morning, for the bright light shining through the big end of the drain-pipe proved that. He crawled along cautiously, making as little noise as possible. If Carlo was waiting at the entrance to pounce upon him, he wasn't going to be caught napping.

Another thing which drew him toward the mouth of the pipe was the fragrant odor of good things from the garden. In spite of the big feast of the night before, Bumper was hungry again, and he longed to get back in the garden and devour a few more carrots and crisp lettuce leaves.

He was within a few feet of the mouth of the drain-pipe, quite confident that Carlo had grown tired of watching and left, when a shadow came between him and the light. Bumper caught sight of a head and forelegs thrust into the opening, and then, without stopping for further investigation, he turned tail and ran back. There was a wild scampering and scraping behind him, and he knew that Carlo was pursuing him in the hole.

But Carlo couldn't follow him far. The pipe narrowed so that there was just room for Bumper to squeeze through, and no dog, certainly not a big dog like Carlo, could catch him in there. When he reached the place where he had spent the night, he stopped to look around him.

Horror of horrors! Carlo or some other animal was close behind him, blocking the entire entrance to the hole. Bumper could hear him scraping along, and could almost feel his breath. A shiver of terror went clear through him. In some strange manner the hole had been enlarged over night, or Carlo had shrunk in size, or what seemed more probable, another dog much smaller had taken up the pursuit.

With a little yip of fear, Bumper scrambled onward again, making his way through the drain-pipe as fast as his feet would permit, which, after all, was not so very fast, for he slipped and lost his footing a dozen times, and once fell all in a heap where an elbow in the pipe brought him to an abrupt stop. There were two holes opening before him, one leading to the right and the other to the left.

Bumper chose the one to the right, and so did the animal pursuing him. The race continued until the rabbit came to another branch where there seemed to be three holes leading off into different directions. Bumper chose the middle one blindly, and ran through it for dear life.

It was very dark, and it was impossible for him to tell where he was going. His one great desire was to escape the pursuing dog or other animal close behind him. Consequently he was unprepared for the sudden climax of his adventure.

The narrow tunnel came to an abrupt ending, and when Bumper shot out of it he landed in a big, circular space that gave him plenty of opportunity to turn around and look at his enemy. He had no more idea what kind of a place he was in now than before. It was all so strange to him. "Hello!" a voice called to him out of the small hole.

Bumper looked up, and saw a big Sewer Rat grinning at him from the mouth of the drain-pipe.

"I never saw a rabbit run faster in all my days," laughed Mr. Sewer Rat. "I couldn't keep up with you. What did you think was after you?"

Bumper was very angry and indignant now that he realized his flight was all unnecessary. He disliked Mr. Sewer Rat and all his tribe, for they had often made their way into the old woman's back yard to annoy the young bunnies. Besides his bad manners and uncouth ways, the Sewer Rat was disgustingly dirty in his habits. How

could he be otherwise when he chose to live in sewers rather than in clean quarters above ground?

"Why were YOU running so fast?" asked Bumper, not willing to admit the rat had frightened him.

"Just to frighten you," was the retort. "I wanted to give you the scare of your life, and I guess I did."

"Oh, no," replied Bumper, assuming an air of dignity. "I wasn't really frightened so long as I knew you were behind me. Carlo couldn't catch me until he nabbed you."

"Carlo! Who's Carlo?" demanded the Sewer Rat, pretending ignorance.

"Oh! ho!" laughed Bumper. "Don't pretend that Carlo, the dog, wasn't after you. Didn't I see him chase you in the hole? And how frightened you looked! Why, it nearly made me die with laughter."

Mr. Sewer Rat puffed up his cheeks and gnashed his long, white teeth angrily. Bumper's fling had hit the mark.

"If Carlo ever touches me," he said, "I'll bite his nose so he'll remember it. Who's afraid of an old dog like Carlo?"

"You are, I should say," smiled the white rabbit.

The Sewer Rat started to deny this, and then thought better of it. "Well, I wasn't more frightened than you, Mr. White Rabbit. You're as pale as a ghost this very minute."

"That's a good one," laughed Bumper. "Pale as a ghost! Why, I'm whiter than snow all the time. How could I get paler?"

Mr. Sewer Rat gnashed his teeth again, and wished his long tail. He was plainly angry and discomfited. So he retorted maliciously:

"You're not white at all. You're so dirty your own mother wouldn't know you. White! Oh! ho! ho! I wish you could see yourself."

Bumper did see himself, or, at least, a part of himself. Both front paws were muddy; his long ears were covered with iron rust; his fat cheeks were dusty and cobwebby, and to the ends of his whiskers clung specks of dirt. In his progress through the drain-pipe he had accumulated sufficient dirt to change his color from pure white to a rusty gray.

"I can soon clean myself," he remarked. "and the little girl with the red hair will help me. Is that the hole that leads back to the garden?"

The Sewer Rat suddenly blinked his wicked little eyes. "Yes," he replied, "if you know the right turns to take. If you don't you'll get lost, and never find your way out."

"I think I know my way back," said Bumper, hesitatingly. He hated to ask favors of the Sewer Rat, but when the latter volunteered information he was grateful for it.

"You'll find a better way back to the garden by following the abandoned sewer you're standing in. Keep straight on to the end. It's much better than crawling back through this small drain-pipe."

"Thank you!" replied Bumper. "I believe I'll go back that way!"

"All right, then. I must be going to my family. I haven't had my breakfast yet. Good morning!"

Bumper thanked him again, and turned to follow the sewer back to the garden, not realizing that the Rat had purposely deceived him out of revenge.

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This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



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Many think that potatoes are at their best when prepared in the simplest ways—that is, baked or boiled—but even so some variety is possible, for they may be baked in their jackets, or with the skins rubbed or scraped off, or pared and baked in the pan with meat, the juice they absorb improving their flavor. Potatoes may be boiled or steamed in the jackets, peeled entirely, or with only a ring peeled around the center. The boiled potatoes may be served as they are, or mashed, or riced. Such simple changes as these help to give variety.

The sugar left in the bottom of American teacups would help to sweeten the life of many a French home. Some housewives have found it possible to avoid useless waste by making a syrup of the sugar and using this to sweeten the coffee before serving, thus making sure that the sugar is dissolved before the coffee is brought to the table.

Corn Meal Mush with Gravy

For an addition to roast loin of pork or roasted fowl, prepare a corn meal mush a little thicker than usual and transfer it to a deep, long baking dish to form. Invert the dish and shake out the loaf. Serve hot in the form of slices, pouring gravy over them.

The call of the hour is for sane minds in sound bodies.

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Shorthorn Bulls

For Sale—Thirteen Scotch-topped bulls, 3 months to yearlings, reds and roans, sired by Silver Knight, a pure Scotch bull. Come and see my herd.

J. R. ELY - AULNE, KANSAS
Marion County

ALYSDALE HERD SCOTCH SHORTHORNS

Viscount Stamp 2d, Clipper Brawith and Count Valentine in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.

C. W. TAYLOR - ABILENE, KANSAS

CLOVERDALE SHORTHORNS—For Sale, two roan yearling Scotch Shorthorn bulls. Exceptional quality and breeding. Also a few heifers. Wesley Jewell, Humboldt, Kansas.

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.

HARRY T. FORBES - Topeka, Kansas

SHORTHORN BULLS

Two registered Shorthorn bulls, one fifteen months old.

F. G. HOUGHTON - DUNLAP, KANSAS

Do You Feed Scrub Stock?

There is little satisfaction or profit in raising or selling inferior live stock. The same amount of feed and effort will yield much larger returns when put into animals that have been bred and developed for specific purposes. Along with the high prices now being realized for live stock comes the high-priced feed necessary to make the stock ready for market. The greater cost of maintenance of breeding animals and the fattening of market animals must be followed by a satisfactory return on the market, else the breeder and feeder must cease to produce and feed. Returns that completely overbalance the cost of production in fattening are not to be had from inferior animals. No manufacturer would attempt to make an inferior, low-grade product from high-priced raw materials in this time of expensive labor and working equipment. Regardless of this fact, we sometimes overlook this particular point and feed scrub animals on high-priced feed. The result of such methods is to gradually eliminate a certain type of live stock farmer, thus giving the better class of breeders and feeders an opportunity for greater returns from the better class of live stock they produce.

It is generally recognized that in spite of the outstanding advantages of producing live stock of well established classes and types, there are on the market today more "misfits" and inferior grades than animals of superior market qualifications and it is impossible to estimate the loss to the producer due to this condition. The parent stock used on farms is responsible for this state of affairs.

The need of the markets can be met only by a general improvement within the herds and flocks on general live stock farms. This improvement may be brought about by the use of the pure-bred sire and the careful culling of breeding herds and flocks. Ample proof of the efficiency of these methods may be had by close observation of practices followed by the most progressive and financially successful live stock men.

A report issued by the Federal Farm Loan Board indicates that up to November 1 farm loan bonds to the amount of \$21,500,000 had been disposed of to investors of the United States. During October the twelve Federal Land Banks received applications for loans amounting to \$27,416,463, and approved loans amounting to \$20,119,240. This brings the total applications for loans in the hands of the twelve Federal Land Banks up to a grand total of \$193,250,945. This represents the applications only of organized farm loan associations, totaling approximately 3,000, one-half of which have actually been chartered and the other half of which awaits action by the Federal Land Banks. In addition the Federal Land Banks estimate that there are approximately 2,000 other farm loan associations being organized in the United States, which, when their applications are filed, will bring the grand total of applications to nearly double the present amount. In amount of loans closed the Wichita bank heads the list with a total of \$5,869,700.

Fur Prices High

Any boy living in the country should know how to trap fur-bearing game. It is great sport and it is profitable, for American pelts are bringing unusually high prices.

Write to some reliable fur house and get what information you need in regard to traps, methods of attracting and smoking out fur-bearing animals, and so on.

Find out what the prospects are in your neighborhood and then start systematically to work. A boy can look after his traps and go to school at the same time, and Saturday he can clean and dry his skins and ship them to market.

The fur-bearing animals are in excellent condition now, due to the cold weather and the fact that there has been less trapping done than usual. Many of the regular trappers are in the army or working at other things. This leaves a profitable field open for the young fellows, and for the old fellow, too, who needs to get out into the open.

General Apathy and Private Interest are two enemies of our national welfare. Each is as dangerous as a kaiser's agent and should be excluded from every American home and industry.

AYRSHIRE CATTLE.



In cold climates, or rugged hills and with scanty feed—

AYRSHIRES

make record production. On good pasture and high feed they are unequalled. They are Healthy, Vigorous, Beautiful and, best of all, PROFITABLE, no matter what the cost of feed. MILK is 3.96 per cent grade. Passes all state and city requirements. Just cows won't do in these times—you must have PRODUCERS. Send for information and list of breeders.

AYRSHIRE BREEDERS' ASSOCIATION
C. M. WINSLOW, Sec'y, 33 Park St., Brandon, Vt.

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS

For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.

E. D. KING - BURLINGTON, KANSAS

MULEFOOT HOGS.

KNOX KNOLL MULEFOOTS

Gilts and young sows, bred to champion boars at several state fairs. Ten extra fine gilts. Boars not related. Also Shorthorn cattle. Catalog on request.

S. M. KNOX - HUMBOLDT, KANSAS

GUERNSEY CATTLE.

REGISTERED GUERNSEYS

Bull calves for sale, best blood lines. Some from cows now on A. R. test. RANSOM & KISSINGER, Homewood, Kansas.

GUERNSEY BULLS.

Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to twelve months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

POLLED DURHAM CATTLE

TRUE SULTAN POLLED DURHAMS

A few heifers bred or open are offered. Some by or bred to the champion \$2,200 True Sultan and Sultan's Challenger.

ED STEGELIN

STRAIGHT CREEK - - - KANSAS

RED POLLED CATTLE.

RED POLLED BULLS

Pure-bred Red Polled Bulls, old and young.

W. J. HARRISON, AXTELL, KANSAS

RED POLLED BULLS

For Sale—Thirty head coming yearling bulls. Come early and get the best. Our experience has been those that come late found us sold out. Write or come at once.

E. E. FRIZELL

FRIZELL, (Pawnee County), KANSAS

Ask your dealers for brands of goods advertised in KANSAS FARMER.

FARM AND HERD.

The Standard Dairy Company, Wichita, Kansas, report their big herd of Holsteins making a fine record. This is one of the choice herds in the Southwest and is headed by Sir Johanna De Kol 19th. This bull weighs 2,500 pounds and has a large list of A. R. O. daughters, some of which at three years old made better than twenty-eight pounds of butter in seven days. He is a half brother to Johanna De Kol Van Beers, who made more than 40 pounds butter in seven days. She sold at public auction for \$7,000, and two of her sons sold for \$45,000. A feature of their herd is the large number of choice cows and heifers that are of record breeding.

L. W. Terwilliger, of Fernwood Farm, Wauwatosa, Wis., reports his Holstein herd doing well. Fernwood Farm is one of the Holstein farms in Wisconsin that is drawn upon heavily for foundation stock, and many of the good herds in the Southwestern States were started with foundation stock from this farm. A feature of the herd at this time is the fine lot of young stock sired by sires of record breeding and from heavy producing dams.

Herman Schmale, of DeWitt, Neb., owner of one of Nebraska's good herds of pure-bred Poland Chinas, reports his herd doing well. Mr. Schmale has all of the popular big-type lines in his herd and has bred a large number of choice sows and gilts for early spring farrow.

FARM AND HERD NEWS NOTES

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

Address All Communications to
Kansas Farmer, and Not to
Individuals

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

CLAIM SALE DATES.

Percheron Horses.

Jan. 25—Kansas Percheron Breeders at Kansas Agricultural College, Manhattan. Under management of C. W. McCampbell.

Jacks and Jennets.

March 26—H. T. Hineman & Sons, Dighton, Kansas.

Miscellaneous.

Feb. 25-28.—Kansas National Live Stock Show, Wichita, Kan. Draft, coach, standard-bred horses and jacks; Shorthorn, Hereford and Holstein cattle; Poland and Duroc hogs. F. S. Kirk, sales manager, Wichita.

Poland Chinas.

Feb. 6—H. B. Walter, Emingham, Kan.
Feb. 7, 1918—W. H. Charter, Butler, Mo.
Feb. 8, 1918—W. E. Wallace, Bunceton, Mo.
Feb. 9, 1918—Will J. Lockridge, Fayette, Mo.
Feb. 13—Hedg & Moore, St. Joseph, Mo.
Feb. 13—Deming Ranch, Oswego, Kansas.
Feb. 13—H. L. Faulkner, Jamesport, Mo.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.
Feb. 23—V. O. Johnson, Auline, Kan.
Feb. 28—Clarence Dean, Sale at Dearborn, Mo.

Chester White Hogs.

Feb. 2—Arthur Mosse and Henry Murr, Leavenworth, Kansas.

Durocs.

Feb. 14—B. R. Anderson, McPherson, Kan.
Feb. 20—W. T. McBride, Parker, Kan.
Feb. 27—R. W. Murphy, Dearborn, Mo.
March 7—W. W. Otey, Winfield, Kansas.

B. R. Gosney, of Mulvane, Kansas, a member of the Mulvane Cow Testing Association, owns one of the heavy producing herds of Holsteins in Kansas. Cows in this herd are leading in the Mulvane Cow Testing Association this year with records up to 85 pounds of milk per day and 111 pounds butter fat in thirty days. A feature of the herd at this time is the fine lot of young stock, including young bulls sired by the grand champion bull at the International Wheat and Stock Show, 1916.

Fremont Leidy, of Leon, Kansas, held one

of the successful Shorthorn sires of the season at the farm on Tuesday, December 6. Sixteen yearling bulls sold for prices ranging from \$110 to \$290 and the twenty-six head of both-topped females averaged \$222. Mr. Leidy sold all these cattle on the farm and they were sold without any extra fitting right off the pastures at these prices, which were very satisfactory to Mr. Leidy.

E. E. Frizell & Son, of Frizell, Kansas, have made a great success of the Red Polled cattle. They exhibited at the Kansas State Fair last year one of the best herds shown and won a large part of the premiums. Messrs. Frizell & Son have been breeding this famous breed of hornless cattle for about eighteen years and have found them a great source of profit. They are profit-producers both for milk and beef. The demand for females has been greater than they could supply. A feature of the herd at this time is the fine lot of young bulls.

D. A. Harris, of Great Bend, Barton County, Kansas, has made a great success breeding Percherons. He has shown horses at a number of the leading fairs and always has taken home a good share of the premiums. The herd stallion, Algarve, is one of the best specimens of the breed in the West and has proven a sire of the right kind of drafters. The mares in this herd comprise a splendid lot of regular breeding mares that are worked on the farm most all the year and also raise fine colts.

L. J. Lindsey, of Reece, Kansas, held a very satisfactory sale of Angus cattle at his farm near that place on Tuesday, December 11. Twenty-eight head of yearling bulls, cows and heifers sold for an average of \$115, which was very satisfactory to Mr. Lindsey.

John A. Reed & Sons, of Valley View Farm, Lyons, Kansas, owners of one of the great herds of Duroc hogs in the Southwest, report their herd doing fine. Reed & Son raised the best lot of spring pigs this year they have ever had on the farm. Many of the boars will now weigh around 275 pounds and they have some fine herd prospects. They were sired by the great boar, Reed's Gano, first and champion at Topeka, Hutchinson and Oklahoma State Fairs, heading the prize herd. This boar weighs 900 pounds in breeding condition. They also have a very fine lot of herd sows richly bred and weighing from 600 to 650 pounds.

H. B. Cowles, of Topeka, reports Braeburn herd of Holsteins doing fine and a good demand for high-class breeding stock. Among recent sales of cows and heifers reported are the following: One to Glen Romig, Topeka; two to W. Nelson, Ellis; four to Kansas Agricultural College, Manhattan, and one to Theresa O'Mara, Colony, Kansas; and sales of service bulls to Jesse Nichols, Iola; L. L. Grassnickle, Onaga; M. E. Scholes, Council Grove, and J. A. Patterson, Topeka.

W. A. Wood, of Elmdale, Kansas, has made a success with Duroc Jersey swine. A line-bred Crimson Wonder boar has been used in the herd for a number of years and a large part of the herd is of the Crimson Wonder family. At the head of the herd at this time is a son of Great Wonder, a very promising young hog that is making good as a breeder. A feature of the herd is a choice lot of spring gilts bred for spring litters, also some choice spring boars.

FARMER

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

FAIR FIELDS FARM

Offers Registered Holstein Bulls, Ready for Service. Fine topky fellows, with straight backs, more white than black; in fact real bulls. The sire of most of these bulls was grand champion bull at the International Wheat Show at Wichita in 1916. Their dams led the Mulvane Cow Testing Association this year with records up to 85 pounds milk per day and 111 pounds butter for thirty days. Prices reasonable.

B. R. GOSNEY - - - - - MULVANE, KANSAS

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank
HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS
BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - - TOWANDA, KANSAS

HIGH-GRADE AND REGISTERED HOLSTEINS FOR SALE

Owing to the shortage of barn room I offer for private sale thirty extra fancy grade yearlings from 12 to 20 months old, \$65; ten high-grade two-year-old heifers due to calve in the spring, \$80; fifteen high-grade cows, close springers due in ten to forty days with second calf, \$100; four large registered Holstein cows, well bred, \$175 to \$250; one prize-winning registered bull, 3 years old December 1, 1917, from a highly bred A. R. O. cow with 17-pound butter record at 28 months of age. He is a real show bull, seven-eighths white, and can be made to weigh 2,000 pounds. Sure and gentle. \$300. All stock regularly tuberculin tested by the state. Are exceptionally well marked and in healthy condition.

JAS. W. MAGEE - - - - - CHANUTE, KANSAS

MAURER'S HOLSTEIN FARM is offering twenty-five pure-bred heifer calves from six weeks to eight months old; also a choice lot of yearlings, bred heifers and young cows, all with top-notch breeding and at prices that cannot be equalled elsewhere; grade cows and heifers. BUY YOUR NEXT PURE-BRED BULL FROM US. For description and prices, wire, write or call.

T. E. MAURE & COMPANY - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price \$20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

BONNIE BRAE HOLSTEINS

I am offering this season's crop of bull calves from a few weeks to three months old. Their sire is a splendid son of King Segis Pontiac, whose four nearest dams averaged better than 25 pounds butter fat in seven days, are from heavy producing dams up to 70 pounds milk per day and are extra fine individuals. Call and see them, also their sire and dams, or write.

IRA ROMIG, Station B, TOPEKA, KANSAS

HOLSTEIN CALVES

We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, \$15 each; two to three weeks old, \$17 each; five to six weeks old, \$20 each. First check takes them. Write.

W. C. KENYON & SONS, ELGIN, ILLINOIS

REGISTERED HOLSTEIN BULLS

From A. R. O. cows. All our own breeding. Bred for milk and fat production.

LILAC DAIRY FARM
R. F. D. 2 Topeka, Kansas

GOLDEN BELT HOLSTEIN HERD

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

W. E. BENTLEY, MANHATTAN, KANSAS

BRAEBURN HOLSTEINS—Senior herd bull, Walker Copia Champion, dam and sire's dam held world's records. Service bulls, bull calves.

H. B. COWLES, 608 Kan. Av., Topeka, Kan.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - - - - SCRANTON, KANSAS

HOLSTEIN COWS

For Sale—Twenty head of registered cows, yearlings and calves; also twelve young high grade cows and heifers. All bred to a bull whose three nearest dams averaged near 26 pounds butter in seven days. One herd bull and four young bulls by Sunflower Sir Mutual 78564.

CHAS. V. SASS
1013 North Fifth St., Kansas City, Kansas

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, \$25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

HOLSTEIN CALVES, 15-16ths pure, six weeks old, the cream of Wis., \$25 each. Registered bull calves, \$45, crated for shipment. Edgewood Farms, Whitewater, Wisconsin.

The Cedarlane Holstein Herd

For Sale—Registered cows, bred heifers, serviceable bulls, bull calves. Also my 3-year-old herd bull.

T. M. EWING, INDEPENDENCE, KANSAS

Oak Hill Farm's

Registered Holstein Cattle

For Sale—Yearling and bred heifers, also young bull calves, mostly out of A. R. O. cows. Perfect satisfaction guaranteed.

BEN SCHNEIDER, NORTONVILLE, KAN.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Regier's Holstein-Friesians

For Sale—Bulls from A. R. O. dams, sired by the great bull, Sir Rag Apple Korndyke De Kol. Also fresh cows and bred heifers.

G. REGIER & SONS, WHITEWATER, KAN.

UNCLE SAM MUST WIN THE WAR!

THE WORLD NEEDS MEAT, MILK, FATS AND WOOL
INCREASE PRODUCTION—CONSERVE RESOURCES

\$25,000 IN CASH FOR PREMIUMS AND \$25,000 AMUSEMENTS

SECOND ANNUAL KANSAS NATIONAL

LIVE STOCK SHOW

AND THE FIFTH ANNUAL CONVENTION OF THE
KANSAS LIVE STOCK ASSOCIATION

(THE BIG ANNUAL EVENT OF THE STOCKMEN)

WICHITA, FEB. 25 TO MARCH 2

HOW IS THIS FOR EASY MONEY

It is possible for one PERCHERON STALLION and one PERCHERON MARE to each win, in cash.	\$655	It is possible for one STALLION and THREE MARES (get of sire group) to win, in cash.	\$1940
It is possible for one STANDARD BRED HORSE to win, in cash.	\$300	It is possible for one SADDLE HORSE to win, in cash.	\$240
It is possible for one COMBINATION SADDLE and HARNESS HORSE to win, in cash.	\$600	It is possible for one SHORT HORN BULL and one SHORT HORN COW to each win, in cash.	\$135
It is possible for the animals in either the AGED HERD or CALF HERD to win, in cash.	\$470	It is possible for one SHORT HORN MALE and one FEMALE to win, in cash.	\$135
It is possible for one BOAR and one SOW to each win, in cash.	\$45	It is possible for one BOAR and three SOWS to win, in cash.	\$135
It is possible for two BOARS and two SOWS to each win, in cash.	\$45		

SPECIAL PREMIUMS FOR KANSAS AND OKLAHOMA SHORTHORNS

DAILY SALES BY THE WORLD-FAMOUS AUCTIONEERS

IT IS OUR INTENTION TO HAVE

INGLEHART Sell DUROCS
DUNCAN Sell POLANDS
PERRY Sell DAIRY CATTLE
ASSISTED BY SNYDER, HOLCOMB, ARNOLD AND OTHERS

REPPERT Sell HEREFORDS
CAREY JONES Sell SHORTHORNS
HARRIMAN Sell PERCHERONS AND JACKS
ASSISTED BY SNYDER, HOLCOMB, ARNOLD AND OTHERS

THESE SALES WILL CONSTITUTE A FREE AUCTION SCHOOL
The Salesmen have been selected as the BEST IN THE WORLD for the Breed they will sell. The Auctioneers of the Central West are requested to arrange their dates so they can attend this "SHORT COURSE IN MODERN AUCTIONEERING"

HORSE SHOW

\$4,000 IN CASH PREMIUMS \$4,000 THE WORLD'S GREATEST ARTISTS
Commence at Once to Condition Your Stock. If You Have Any Pure-Bred Animals For Sale Write for Sale Terms Entry Blanks and Premium List

FREE ENTRIES, FREE STALLS, FREE ADMISSION TO EXHIBITORS
ED MCINTYRE General Manager WICHITA, KANSAS F. S. KIRK Supt. of Exhibits and Sales



OLSON HAMPSHIRE. For Sale—One spring yearling and one fall yearling boar, 8 spring boars, 40 head spring gilts either bred or open. All immuned and registered to purchaser. Write or come and see our herd. Farm 12 mi. S. of Salina.

OLSON BROS. - - - - - ASSARIA, KANSAS



CHOICE HOLSTEIN CALVES

Twelve Heifers and Two Bulls, 15-16ths pure, beautifully marked, five weeks old, from heavy milkers, at \$20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARM, Wauwatosa, Wisconsin

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

Live Stock and Real Estate Auctioneer. Fifteen years experience. Write for terms. Thos. Darcey, Hutchinson, Kansas.

JERSEY CATTLE.

120 Jersey Cows and Heifers

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

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

GALLOWAY CATTLE.

GALLOWAY BULLS

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

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GOOD GALLOWAY BULLS

Twenty-five Extra Good Yearlings Extra breeding and quality. Priced to sell. J. M. HILL, SEDGWICK, KANSAS Route 4, Box 65A

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

Kansas Farmer Premium List

Many of the Premium Bargains Listed on This Page will be Withdrawn After Jan. 1, and all Prices will be Advanced Renew Your Subscription Before January 1, and Receive One of these Splendid Offers. Do not Wait Until Your Subscription Expires, Act Today

Every Subscriber to Kansas Farmer is Entitled to one of the Gifts Described Below. All that is necessary is to Renew Your Subscription to Kansas Farmer.



DOLLS

This great big unbreakable doll will make an excellent present for the little girl or the baby. The doll is nine inches in height with mohair wig. Has well shaped body in natural flesh tints. It is a beautiful doll and will please the little one. Send 25 cents extra with your subscription to Kansas Farmer for this excellent Christmas present.

TWELVE GRAFTED APPLE TREES FREE GIVEN WITH KANSAS FARMER

This collection of TWELVE GRAFTED APPLE TREES which we want to send you, consists of TWELVE TREES EACH, of four varieties of proven merit. They are hardy, will thrive anywhere, and provide a nice succession of quality fruit, including

THREE GENUINE DELICIOUS
THREE STAYMAN WINESAP
THREE JONATHAN
THREE WEALTHY

These Trees are genuine grafted stock, guaranteed true to name, sound and healthy. We have arranged with one of the large nurseries in the country for a supply of these grafted trees, and we want to send you a set of twelve. Whether your place is large or small, these twelve trees will find a place, and add to its beauty and value.



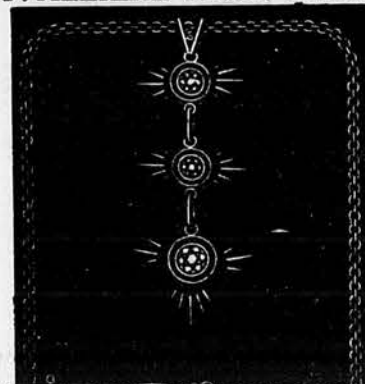
GAMES

This game of letters and anagrams is a popular and instructive game for children. The anagrams or letters are on wooden blocks three-fourths of an inch square. There are about 240 of the blocks in each set. Given complete, FREE, with your subscription to Kansas Farmer.

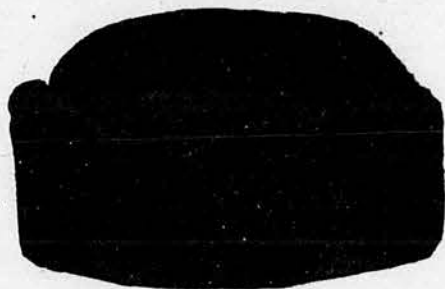
OTHER GAMES FOR GROWN-UPS

We also offer the following games FREE with your subscription to Kansas Farmer:
PIT—The Board of Trade Card Game. Each player tries to get a corner on wheat, corn, oats, etc. Great fun for old and young.
FLINCH—A popular game played with 150 cards. From two to eight persons can play at a time.
DOMINOES—Made of black ebonized hard maple. Double-six set consisting of 28 pieces.

LAVALIERE NECK CHAINS



This gold filled cable link Neck Chain and Lavalier will please any girl or woman. The chain is fifteen inches long, with spring ring clasp, fancy filigree design pendant, English finish with pink cameo setting. A very rich appearance. Given free with your subscription to Kansas Farmer.



CAPS

We have white ones for ladies. We have black ones for men.

This fine Cap is made of imitation fur cloth. Looks like a fur cap. Just as warm and durable as many made of fur. Just the thing for any man or boy. Flaps pull down over ears. Send 15 cents extra with your subscription to Kansas Farmer.

SPECIAL OFFER

If you will send us \$1.00, we will enter or renew your subscription to Kansas Farmer for one year and send you the twelve Apple Trees postpaid. As the demand for these trees is enormous, you should take advantage of this offer at once. We reserve the right to refund money after the supply is exhausted.



KNIVES

This knife is a fine present for a boy or a man. It is a two-bladed knife of best tempered steel and stag handles. Size of knife closed, 3 1/4 inches. The knife will make a creditable present for anyone, or it is a handy, useful article for any time. FREE with your subscription to Kansas Farmer.

Our New Three-Piece Butchering Set FREE



CONTAINS ONE EACH

Skinning Knife

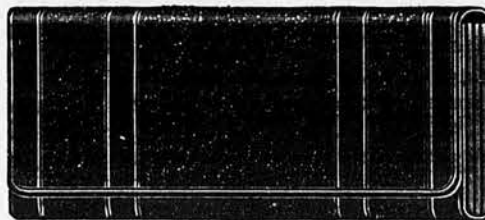
Sticking Knife
(Double Edge)

Butcher Knife

All with six-inch high grade blades, carefully tempered, ground and polished. BEECH or MAPLE HANDLES and EXTRA LARGE-HEADED BRASS RIVETS. Fully warranted.

Special Offer.

This fine set will make an excellent Christmas present for anyone. Send 15 cents extra with your subscription for this gift.



SEVEN-IN-ONE POCKETBOOK

Inside there are two cases for money, tickets, cards, or anything you want to carry, also a blank identification card or pass case, and one compartment just the right size for bills.

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