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BETTER FARMING
IN CANADA
AND CANADIAN
COUNTRY

Asst. Chairman for 1918
Comm. of Conservation



Toronto, Ont., June 27, 1918



AN ATTRACTIVE ONTARIO HOME, MADE SO BY PAINT AND PLANTING

My Ideal of a Farmers' Cooperative Assoc.
Prof. B. H. Hillard (Page 3).

Care of Mechanical Milkers
How to Care for Your Milking Machine.—Geo. B.
Hood (Page 4).

Eradicating Tuberculosis

What the Test Can, and Cannot Do (Page 4).

Time to Cut Hay

Better Early Than Late.—H. L. Spooner (Page 4).

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No one wants to be bossed by a bell, or chased by a speedometer. Fixed-feed separators are hard taskmasters, unless cream waste means nothing to you. How much better it is to have your separator skim clean at any speed—working for you, not against you. Only one separator does this—the Sharples suction-feed. It skims equally clean at all speeds, averaging a saving of 10 lbs. of butter per cow yearly over any other separator. Every time you turn a Sharples you are saving the butterfat that will help win the war.

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Price is but \$1.50.

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Fall Wheat Season 1918

To get the maximum production it is absolutely essential to use Fertilizers, and the most economical kind to buy is

SYDNEY BASIC SLAG

If our goods are not being sold convenient to you why not take a carload of twenty tons, and take advantage of the lowest rate of freight? You will need a few tons yourself, and the neighbors will help you out with the balance. The best proof we can give you as to the value of Sydney Basic Slag is that the sales for Fall Wheat in 1917 were 6,242 tons, as against 236 tons in 1913, the first year of its introduction.

Drop us a line and let our man call on you.

THE CROSS FERTILIZER CO., Limited
SYDNEY, NOVA SCOTIA

Standard Feed Contracts Out

CONTRACTS have been mailed to millers throughout Ontario by the Organization of Resources Committee, giving them the opportunity to manufacture a standard stock feed. The feed is to be placed on the market next fall and winter, and the contracts must be returned before July 1. The contract was drawn up at a conference held last week between the sub-committees which had the matter in charge and the millers. Under the contract the millers agree to:

Purchase the various ingredients entering into the preparation of the feeds, according to the formulae prescribed, to the best advantage and from sources to be approved by the committee.

Assemble the same at convenient warehouses or places of storage, and there mix and prepare the feed according to the approved formulae.

Store the same pending sale and delivery.

Sell, ship and distribute the same only to such farmers' organizations or such other persons as shall be approved by the committee.

At all times maintain the standard and quality of the feeds according to the formulae supplied.

If required, used bags or other packages to be supplied by or through the committee.

Permit representatives of the committee to have free access to the books and warehouses, so as to see that the contract is being properly carried out.

Furnish to the committee monthly statements of the quantities purchased, sold or distributed by each of the millers, and the quantities on hand, whether prepared or otherwise.

Sell the feeds at a cash price not to exceed \$5 a ton over the actual delivered cost of the ingredients. An additional charge, satisfactory to the committee, may be made where credit is given or cartage service rendered.

Furnish the committee, when demanded, with samples of the feed for the purpose of analysis.

Ingredients of Feed.

The approved formula for dairy cattle ration is: 5% per cent. of the total feed must be made up of three or four of the following feeding stuffs—oil-cake meal, cottonseed meal, soy-bean meal, velvet-bean meal, and gluten feed, the latter containing not less than 18 per cent. protein, provided, however, that not more than 20 per cent. of the total feed shall be made from any one of these feeds.

The balance of the feed shall contain sufficient hominy feed or corn to make 15 per cent. of the total feed, and one or more of the following: corn feed, barley feed, oat feed, beet pulp and wheat bran, and any other feeds that may be from time to time approved by the Feed Committee, provided also that the completed feed shall contain not less than 24 per cent. of crude protein, 4.5 per cent. of crude fat, and 4.5 per cent. of soluble carbon hydrates, and not more than 10 per cent. of crude fibre.

The formula for the swine ration is: It shall consist of at least 6 per cent. of tankage, 20 per cent. of wheat or rye shorts, 33 per cent. of corn or hominy. The balance of the feed shall be made up of one or more of the following: corn feed, barley feed, wheat, bran or any other feed that may be from time to time approved by the Feed Committee, provided also that the completed feed shall contain not less than 16 per cent. of crude protein, 4.5 per cent. of fat, and not more than 6 per cent. of crude fibre.

Millers are warned that they must be careful to comply with the formula. They are also advised

that it would be well to secure the consent of the committee to the particular ingredients proposed, before purchasing raw materials.

A Talk by Dr. Hastings

"ONE quart of milk is equal in food value to one pound of steak, 11 fresh eggs or two and one-half pounds of chicken, and yet people will grumble if there is an advance of a single cent in the price of a single quart of milk. Beef may advance five cents a pound, and there is no newspaper comment. Why the difference? The only explanation that occurs to me is that milk is a commodity of universal use and therefore an increase in its price affects more people."

In these words Dr. J. G. Hastings, Medical Health Officer of the City of Toronto, opened one of his characteristic addresses to a group of dairymen recently. He paid high tribute to the food value of milk, and to the importance of the dairy industry. Likewise he did not hesitate to put his finger on what he considered to be some of the weak points of the business. "Ordinary market milk unprotected, is the cause of more sickness and death than all other foods put together," he declared. "And it is the man more than the bacterium who makes the milk proof that is responsible for clean or dirty milk? There is not a man here but that can produce milk that will have less than the maximum germ content allowed for sale. If he will practice cleanliness and chill the milk immediately it is drawn."

In spite of cleanliness, however, milk may not be bacterially clean. Typhoid and typhus fever epidemics, for instance, have frequently been traced to milk, and the presence of these germs in milk is not due to lack of cleanliness. Also tuberculosis, which is proven to be transmitted to humans through milk, may be present in milk that has been handled with the greatest care. "Results of investigation prove," said Dr. Hastings, "25 to 30 per cent. of all tuberculosis in children under 16 years of age is of the bovine type, and therefore contracted from cow's milk. Bovine tuberculosis is rarely, if ever, transmitted to the adult. This danger to our childhood may be removed by scientific pasteurization, and I am a strong advocate of pasteurization of all city milk. Pasteurization, however, does not make dirty milk safe. It merely makes clean milk safe."

Dr. Hastings advocated pasteurizing at a temperature of 145 degrees for 25 to 30 minutes. This destroys all germs, and does not interfere with digestibility. He had a final word for the consumer. "We must be prepared to pay for pure milk if we are to get it," he remarked. "I know that there is no profiteering in milk at present prices."

The pure-bred Sutherland cow whose likeness appeared on back cover of Farm and Dairy of June 6 was Springfield White Beauty, 28757, with a Record of Performance test as a three-year-old of 12,605 lbs. of milk and 539.7 lbs. of fat. She is now owned in the University of British Columbia dairy herd.

To change the name of the Holstein cow to "Friesian" at the present time would be unfair to the breed. Black and white cattle have been known by the name of Holstein ever since the organization of our association. I cannot see but what as we would be just as well off to keep the name as to change it.—Fred Coit, Rentree Co., Ont.

A CORNER.

"Do you and your wife ever have words?"
"I haven't any; she corners the supply."—Baltimore American.

*Prof. Hillbrand has attempted to strip the rights regarding this subject in the U. S. from our constituents. We will work here as they are.

Trade increases

VOL XXXVIII

Membership, I

MANY scolded me largely of course to a desire on the aid of anyone else. It may be due to the fact that I am a farmer, to have a business. Or the cooperative enterprise an attraction, and we are to get the matter of grave doubt be allowed to continue. Where difficult capital among the farmers from any available farmers' rights are not prove dangerous or those investors force in twisting the association in the dividends instead of the results to each of the basis of business fun outsiders want to get in but one thing to must be kept out of it.

Where, for example member retiree aged to town the tendency to him still as a thin continue his no danger in such a case great, but the safest the management, at great majority of the within the active farm retired farmers can't the association that should be made available authority should Agricultural cooperatives not only for farmers Business-like it is.

Any organization needless if it understands with hope of a in this respect is cooperation is in greater need of private concern. The responsibility is unfairly concern and diffused of view concern. A but who belong to a company are not likely than two or three, do tending his meetings. The directors are no interest in the affairs by railroad or bank respective companies investment is small, again the cooperative modest return business. All these factors thorough-going business cooperative company any time know how freedom of charge may for all they do.

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Our Welcomes Practical Progressiveness

Trade increases the wealth and glory of a county; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

VOL XXXVIII

TORONTO, ONT., JUNE 27, 1918

No. 26

My Ideal of a Farmers' Cooperative Association*

Membership, Finance, Accounting, Payment of Dividends and Other Points in Cooperative Management Discussed by Professor B. H. Hibbard

MANY so-called farmers' associations are made up largely of non-farmers. This may be due to a desire on the part of the farmers to enlist the aid of anyone and everyone in raising the capital. It may be due to the desire on the part of men not farmers, to have a hand in the management of the business. Or the mere matter of investment in some cooperative enterprises as now organized furnishes an attraction, and where no rules bar the non-farmer he comes in to get dividends. In all cases it is a matter of grave doubt whether such outsiders should be allowed to connect themselves with the association. Where difficulty is experienced in raising the capital among the farmers the temptation to take it from any available source is great, and where the farmers' rights are properly safeguarded, this might not prove dangerous. But safeguarded they must be or these investors will become a force in twisting the course of the association in the direction of stock dividends instead of toward favorable results to each member on the basis of business furnished. Where outsiders want to get control there is but one thing to be done; they must be kept out.

Where, for example, a farmer member retires and perhaps no one to town the tendency is often to treat him still as a farmer and let him continue his membership. The danger in such a case may not be great, but the safest way is to keep the management, at least, and a great majority of the memberships within the active farmer class. If retired farmers can be of service to the association their assistance should be made available, but their authority should be restricted. Agricultural cooperation must be not only for farmers but by them.

Business-Like in Character.
Any organization must be business-like if it undertakes to do business with hope of success, but in this respect a cooperative company is in greater need of caution than is private concern. The reason is that responsibility is unified in a private concern and diffused in a cooperative concern. A hundred farmers who belong to a cooperative company are not likely to spend more than two or three days a year attending its meetings and transacting its business. The directors are not likely to take quite the vital interest in the affairs of the company that is taken by railroad or bank directors in the affairs of their respective companies. Hence in the one case the investment is small, and in the other case larger, and again the cooperative company usually makes but a modest return over what could be obtained otherwise. All these facts point to the necessity of a thorough-going business plan for the guidance of a cooperative company so that the members may at any time know how matters stand, and in order that these in charge may be held to a strict accounting for all they do.

There should be an adequate, but simple system of accounting, such that expenses and investments may

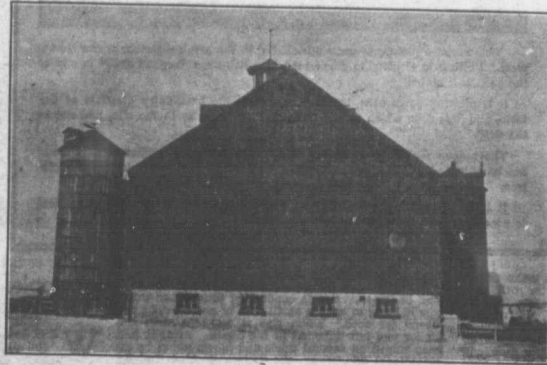
be taken care of in a regular and equitable manner. For instance, in a cooperative creamery, it is unbusinesslike and unfair to deduct from the price of butter for a given month or two a sum sufficient to buy a new vat or separator. Suppose, for example, a given patron is furnishing almost no milk at that particular time, he escapes payment of his proportion of the charge. Or suppose a given patron is furnishing the very maximum amount for the year; he pays more than his just proportion of the charge. Again, in case the equipment purchased is to be used over a considerable period of years, the members of the company at the time the purchase is made stand the expense, while those who succeed them get much of the value. It is clear that the only fair way to adjust these matters is to provide funds out of which the various expenditures may be made. Preferably

A truly cooperative company is essentially democratic. In this respect it is unlike the ordinary business organization in which one man, or a few men, have complete control. It is even unlike the most usual type of corporation where stockholders vote in proportion to the amount of stock held, and where, therefore, a few members may so out-vote the majority as to render the control which is not democratic. A cooperative company which is not democratic is not, in a real sense, cooperative, although it may be such in form. Cooperation means a working together of men for the accomplishment of some object to the advantage of all. Should the control fall into a few hands this mutual relationship is almost sure to suffer and the interest of those holding the power become the criterion by which all policies will be shaped.

This brings us to the "one-man-one-vote" principle, usually put forward as the one thing needful in cooperation. Under most circumstances the plan is to be commended. In this way it may be made difficult if not impossible for a clique to get control of a company. For example, it is quite usual to provide that not over one-tenth of all outstanding stock may be owned by one man, in which case no one man or small group of men is likely to get control of a majority of the stock. Of course, the limitation of the vote to one for each man is the greatest possible safeguard against concentration of power.

Where Large Farmers Object.
Under some circumstances "one-man-one-vote" may prove to be too rigid a safeguard. Where the interests of the members are nearly identical, or equal, there would seem to be no good reason why each man should not have an equal vote in the control of policies. But where the members have widely varying interests it is often hard to get those whose interests are greatest to agree to the "one-man-one-vote" plan. It may happen, for instance, one member has ten acres of straw berries and another has strawberry sales almost exclusively for his income. Another man may have a tenth of an acre and get a trifling part of his income from the sale of such fruit. It is not likely that the big grower will take kindly to the proposition giving the small grower the same voice as himself in the marketing policies. And it hardly seems reasonable that the two should be put on an equal basis with respect to authority in control. In fact, the wisdom of a union of large and small producers in the same company is often questioned by the interests of the big producers are not jeopardized by the responsibility, stubbornness, or jealousy of the small producers, there is nothing to be said against such an arrangement. It is a fair business for the small producer to profit by the better business methods of the large producer if only the two classes can get along smoothly together. In Europe, where the "one-man-one-vote" predominates in nearly all cases there is a tendency toward segregation of large and small producers.

One very satisfactory way of bringing the large and the small producer together on a basis fair to both is to permit voting in proportion to business (Continued on page 12.)



The modern dairy barn and silo on the farm of Mr. T. J. Griffin, President of the Wentworth Milk Producers' Association.

—Photo by an editor of Farm and Dairy.

closely related cooperative associations such as a group of fruit exchangers, group of creameries, or a group of fruit exchangers should use the same system of accounting so that comparisons may easily be made, and that federations, if such be formed, may deal intelligently with individual associations with respect to audits or other authority which may be delegated to the central body.

Whether the audit should be by the board of directors, by a special committee, or by some outside authority may be an open question; but audit there should be so that the members of the company, and all doing business with them, may know the business standing of the association. The main thing for farmers to learn, is that a business will not run right simply because it is started right. Neither can all managers be trusted to keep records straight and intelligible without some occasional authoritative inspection from outside the office. Publicity of act should be so that the members of the company, and all doing business with them, may know the business standing of the association. The main thing for farmers to learn, is that a business will not run right simply because it is started right. Neither can all managers be trusted to keep records straight and intelligible without some occasional authoritative inspection from outside the office. Publicity of act should be so that the members of the company, and all doing business with them, may know the business standing of the association. The main thing for farmers to learn, is that a business will not run right simply because it is started right. Neither can all managers be trusted to keep records straight and intelligible without some occasional authoritative inspection from outside the office. Publicity of act should be so that the members of the company, and all doing business with them, may know the business standing of the association.

*Prof. Hibbard has made an exhaustive study of co-operatives—principles both in America and Europe, and is rightly regarded as the best authorities on this subject in the United States. The principles that he here enunciates are in use in quasi-public co-operative work here as they are to the south of the border.

Organic Matter in the Soil

It May Be Increased by Commercial Fertilizer

"A PLENTIFUL supply of organic matter in the soil is the basis of soil fertility," said Prof. R. Harcourt, of Guelph, in a recent address. "Not only does it conserve moisture and improve soil texture, but through it the great supplies of unavailable plant food are made available for plant growth." Another authority on fertilizer problems, Prof. F. E. Bear, now of Ohio, but formerly of the West Virginia Experiment Station, gives organic matter the same place in soil improvement, and proffers a recent paper in accordance with the statement that we need organic matter because "we need to think in terms of 100 bushel corn crops, 50 bushel wheat crops, and 4 ton clover crops." In the past the usual way of getting this organic matter has been to apply barnyard manure, and regarding this Professor Bear makes the following statement: "Manure enthusiasts point to manure as being a most necessary material on the farm because it supplies organic matter. One of the chief objections offered against the use of fertilizers is that they contain little or no organic matter and that their use renders the soil poorer in this constituent than before."

Following this, Professor Bear reports results on some of the work done by himself at the West Virginia Experiment Station, in which it was shown that the use of fertilizer, far from decreasing the organic matter of the soil, actually increased it. Professor Bear's conclusions from this work are as follows:

Bigger Crops—More Organic

"Rightly interpreted it means that organic matter in soils can be increased by the use of any material which will increase the yield of crops, whether that material be fertilizer, manure, limestone or anything else. It also means that careful operations as drainage, the use of proper rotations, the growing of legumes, in so far as they increase the productivity of soils, will also increase the content of organic matter in these soils.

"Evidently organic matter in soils is secured in large part through the roots and stubble left behind after the crop has been removed. Large crops have large root systems and a thick matting of stubble or sod. Poor crops have small root systems. The difference between the check plot and the fertilizer plot lies in the amount of material left behind in the soil after the crop has been removed."

Prof. Bear's conclusion is that "if the content of organic matter in soils is to be increased to any considerable extent it will be possible largely as a result of growing larger crops, with the resulting large root systems, and heavy stubble and sod. If we grow big crops in suitable rotations, whether we make use of fertilizer or manure, the organic matter will take care of itself." Large crops are possible through fertilizing with barnyard manure or commercial fertilizer. It is significant in those cases where the soil is most productive the two methods are combined, live stock is kept in large numbers when the size of the farms is considered and commercial fertilizer is used. It is noted that the latter the Canadian farmer can afford to use as a point yet to be determined. Of the value and profit of live stock in maintaining soil fertility he has already had abundant evidence.

Feeds Meat in the Summer

But the Cows are Good Ones

WALBURN RIVERS, Oxford Co., Ont.
DOES it pay to feed meat to dairy cows while on pasture? It depends a great deal on the cow. We have been feeding meal to all our heaviest producing cows all through the summer for a number of years, but the milk is weighed and also the meal and each individual cow is fed in proportion to the amount of milk she is giving and the percent of butterfat in the milk. As we separate all our milk and sell cream it is not a fair test, but the largest flow of milk that is making the most butter or money, nor needs the most milk to keep her in condition. As all our cows have been officially tested for seven or 30 days, and all have been running in B. C. class, the milk test is regular, we know just about what they are doing, and can feed accordingly. Of course, we feed heifers a little better in proportion to the milk and butterfat they are giving than mature cows, as we like to keep

them growing all the time, and think this tends to develop their milking qualities and increase their capacity for all kinds of feed. We have cows giving over 70 lbs. and up to nearly 80 lbs. milk daily on twice a day milking, and testing nearly 4 per cent fat, and, of course, could not expect them to do this and keep in condition to keep it up very long without some meal.

Taking it all round I certainly think that at the high prices of meal, provided you have the right class of cows, naturally heavy producers of milk and butterfat, it pays to feed some meal on pasture; if one will study the cows, weigh the milk, pay some attention to the particular kinds of meal that each individual cow requires, and feed each cow according to what she is doing.

Why Not Grow Clover Seed?

A Dundas Field Yielded \$320 Worth

THE high price paid by farmers for clover seed this year should be an incentive towards its production on the home farm. In many parts of Canada where it has been thought for many years that clover seed could not be grown, it has been repeatedly proven of late that seed of the finest and hardest strains could be successfully and profitably produced. Seed of excellent quality is now grown in

An Expensive Way of Adding Humus



This is not a picture of prairie breaking in the scrub districts of the Northwest. Neither is it plowing down corn that had been "hogged over" in one of the corn belt states.

It is plowing down corn, but it is in one of the best dairy districts of Ontario, and it is corn which should have spent the winter in the silo, and not in the field.

The reason that it was not put in the silo is because sufficient help could not be obtained to get it out before the hard frosts came, and rendered it worthless.

It is to prevent a repetition of such conditions as this that farmers object to necessary men being taken from the farms.

the Kenora district of Northern Ontario.

One farmer in Dundas county, where the Commission of Conservation is conducting illustration work, was induced to keep a small field of second crop red clover for seed. When ripe it was cut with the binder and left unbound in the swath. After it had been rained on several times and blown about by an exceptional windstorm, the farmer decided that he certainly would not grow a clover seed crop again. However, when threshing yielded 16 bushels of first-class saleable seed which he sold at over \$20 per bushel, he afterwards found that it was the best yield of crop grown on his farm, because he had already stored away a good crop of hay from the same field. This experience could and should be repeated on thousands of farms where clover seed is not now grown and where the farmer is taking a risk of introducing noxious weeds every time he buys never seed. In order to get best results in seed production, the first crop, for hay, must be cut early. This gives the second crop, from which the seed is secured, an opportunity to start early and to blossom and ripen the seed before the killing frosts of autumn.

It is well to cut or pull noxious weeds in the second crop clover in order that the seed may be clean. Clean seed is better to sow on the home farm and will command a higher price when put upon the market.—F. C. N.

The man who is expecting to feed a number of hogs during the season of 1918-19 should grow barley. While oats is probably more generally fed in Canada than any other grain for hogs, it is a poor feed for fattening pigs. Its best place is in feeding growing pigs or milking sows. Barley is our fattening grain in Canada. It must be used with oats and shorts for young pigs, and as a finishing ration for hogs over 100 lbs.—G. B. Rothwell, C.E.F., Ottawa.

Time to Cut Hay

Better Too Early Than Too Late

By H. L. SPOONER.

ALTHOUGH there is some difference of opinion as to the best time to cut hay, there should not be much variation of opinion as to the difference of one or two or three days, or even one day in cutting often makes a wide difference in the quality of the product. According to hay dealers, early-cut hay is invariably the best. A. J. Peterson, a hay dealer in an address to a farmers' institute a few days ago said, "Better cut some of the hay when it seems too green than to cut it when too ripe. In my own experience in shipping sections of hay, I have been made to a single car that the hay was cut too green."

The best time to cut timothy is when it is in full bloom, before the seeds begin to ripen. The seeds ripen so quickly after the flowers have reached their height that one who has a large acreage should wait until the whole crop is in full bloom before beginning the harvest, as some of the crop will get too ripe. The stems are then woody and do not make good feed. Better to cut half the crop a little under-ripe than to cut any of it over-ripe.

The cutting of clover is a more difficult proposition than that of timothy as clover is so hard to cure in the summer months.

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the cow's work, her condition, and what else she is receiving. In the average case three to five pounds of meal per day will suffice. At the present time it is often a case of taking what meal may be available, and mixtures are almost out of the question. Oil cake meal seems about as good value as anything, and less of it will do. It is a good milk producer, and is a splendid feed for sustaining and increasing body weight. If other feeds can be combined with it so much the better, but one pound of it per day even alone on short grass will go a long way in tiding the cows over a bad time.

Care of Mechanical Milkers

Cleanliness the Most Important Point

GEO. B. HOOD, Wellington Co., Ont.

"N O, street I wouldn't have one of them blamed milking machines around the place; not even if they gave me one." On being asked his reason, the farmer, who had thus emphatically expressed himself, replied that a neighbor of his used one. The machine was kept in a filthy condition, and the milk was about ready for the pigs by the time it was drawn.

In all likelihood there are numerous similar cases. But that is certainly no reason why the milking machine should receive such unqualified conviction. It is the fault of the owner. If he wishes to extract milk from his cows mechanically he must be willing to spend a little time in the care of his machine. If not properly looked after the milker can indeed become a very unsanitary apparatus in a short space of time—every other utensil concerned with milk is similar.

After being used, the various parts of the machine have on them a thin film of milk. This becomes an excellent collector of dirt and an ideal breeding ground for bacteria of various kinds. The result is as above.

To Wash Parts.

The metal parts of the machine should be thoroughly washed and scalded—should be rubbed with a cloth—after each milking and put away in a clean place. The teat cups and tubing should be fitted to the machine and well rinsed out before use. After milking they should again be rinsed. Use warm water before milking, the latter to be followed by washing powder and hot water. They should be kept in a disinfectant solution between milkings.

All teat cups should be taken apart once a week and thoroughly scrubbed with hot water and washing powder, using suitable brushes to do it. Then rinse with hot water before putting them together, afterwards returning them to the disinfectant.

The disinfectant, unless kept renewed, is really a source of contamination. In several cases disinfectants have been found to be breeding centres for bacteria instead of "killing" solutions. Great care should be exercised to see that this does not happen.

Preparation of Chloride of Lime.

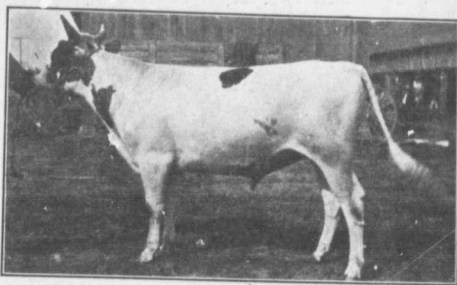
Chloride of lime solution is most commonly used as a disinfectant. Take one pound of chloride of lime having 20 to 32 per cent. available chlorine. In buying chloride of lime, know the strength of the material being bought. It should be bought in glass jars, as that put up in packages frequently loses its strength. Mix this with one gallon of water in a enamelled crock or wooden tub. Allow this to stand for several hours, giving it an occasional stir. Then

allow it to settle and pour off the clear liquid. The sediment is discarded. Add enough water to this solution to make ten gallons. Fill this into the tank and immerse the tubes and teat cups in it. The solution will remain active for about two weeks in summer and three weeks in winter.

The disinfecting solution is good as long as there is present available chlorine. The presence of chlorine may be tested by the use of iodine starch indicator paper. This can be prepared in the following manner:

Mix one part of starch with about 100 parts of water. Soft water is preferable. Heat to boiling. This gives a dilute liquid. Add about one part of pure potassium iodide. When dissolved pour off the liquid from any sediment present. In this liquid dip strips of unsized paper.

Dip a small piece of this indicator paper in the solution of chloride of lime to be tested. A blue color indicates the presence of available chlorine. No color or very slight coloration indicates that the solution has lost its strength and means that renewed. The above measures, no doubt, mean that; but only by adopting them can pure milk be obtained.



The Junior Champion Ayrshire Bull, at Ormstown Spring Show.

Stoneycroft, Flicke's Pride was first as a junior yearling in strong company. This tiny Ayrshire youngster was shown by A. Arthur, Huntingdon, Que., a new exhibitor.

ence in any one of the animals. The period which elapsed between the introduction of these animals and the time they were all tested again was sufficient for the spread of this disease throughout the entire herd.

"This breeder states it is the belief of veterinarians that by the slaughter of reacting animals tuberculosis may be eradicated. This depends wholly upon how general the disease is throughout the herd and what methods are being employed to keep it from spreading between the periods of testing. Veterinarians who have given careful consideration to the tuberculin testing of herds know that, when 40 to 50 per cent. of a herd reacts to the tuberculin test, the only safe procedure is to treat the entire herd as reactors and proceed upon the Bang system.

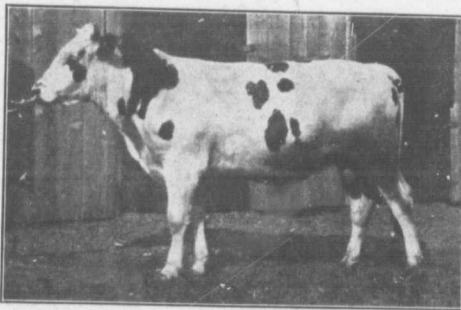
Tuberculin Test Limitations.

"The tuberculin test is not infallible, but it is the best diagnostic agent we have. The tuberculin test does not reveal an animal which has, but recently been exposed to tuberculosis, or one in the incubating stage. Neither will it certainly reveal an animal well advanced in tuberculosis as those mentioned by the breeder who lost his entire herd may have been.

"Those opposed to the tuberculin test have failed to understand its limitations and to inform themselves upon what is necessary to do to keep a herd free from tuberculosis. The breeder, who introduced 17 animals into his herd which was clean, made a serious mistake in not making certain that they were not diseased by the records of their tuberculin tests and the history of the herd from which they came. Or, if this were not practicable, he made a serious mistake by not keeping them in quarantine, that is, keeping them separate from the healthy animals which could be retested. After he found on retest that a number of them reacted, they could have been eliminated and slaughtered. Those that did not respond should have been kept separate until at least two tests had followed showing negative results, or no reaction to the tuberculin test. If there was reason to believe that some of the animals were too far advanced to respond to the test, then other measures should have been resorted to, such as the examination of the sputum and physical examination in order to be doubly sure that none of them were suffering from tuberculosis.

"Until the breeder informs himself thoroughly in reference to handling tuberculosis and keeping his herd free from this disease, there are going to be severe losses sustained from tuberculosis, even though the tuberculin test is systematically and regularly applied. It is not possible, when the herd becomes thoroughly infected with tuberculosis to eradicate this disease simply by tuberculin testing and slaughtering, but in connection with a tuberculin testing, but in connection with a high state of sanitation must be sustained, milk pasteurized that is fed to young, and the attendants must be careful or there is danger of them carrying the infection."

The graded road can be kept in the best condition with the least labor by using the road drag. The road drag scrapes off the projections and fills up the low places, thus leaving no places for water to stand, which is what causes the road to soften and be cut into ruts. A persistent use of the road drag will keep the road bed well crowned, smooth and hard, and this will also result in the least dust, as the dust comes largely from the grinding up of the ruts and rough places left by the horses' feet.



Riverdale May Echo Lyons, Junior Champion Holstein Bull.

The photo did not do justice to this excellent young bull as he had had the ring put in his nose only a few days before and could not be made to pose properly before the camera. He is a growthy bull of good conformation. Exhibited by W. A. Stevens, Phillipsville, Ont.

When Eradicating Tuberculosis

Quarantine All New Purchases

M R. F. Field, of Massachusetts, tells of a breeder who had tuberculin tested his herd for years and kept it free from tuberculosis. In 1912 this breeder bought at public auction seventeen head from a herd infected with tuberculosis, but none of the 17 animals reacted to the test when purchased.

These animals were put in with the herd that was free from the disease and in a short time the whole herd became infected. Tuberculin testing and slaughter were continued, but the herd was not freed from contagion. Finally the whole herd was disposed of, the owner sustaining a heavy loss. Commenting on this, Hoard's Dairyman has the following to say:

"It should be borne in mind that this breeder's herd was free from disease until January, 1912, when he introduced 17 head of cattle purchased at a public auction. All these cattle had passed the tuberculin test, but it must not be forgotten it is possible that all had been exposed to tuberculosis and had not developed the disease sufficiently for the test to reveal its exist-



The Winner in the Dry Cow Class, Harleyholm Rosie 5th.

The dry cow class of the Ormstown Spring Show is always a strong one and the first prize dry cow is always a close contestant for championship honors. The class winner this year was exhibited by R. R. Nees, Howick, Que.—Photos by an Editor of Farm and Dairy.

Farm Management

More Thoughts on Winter Wheat

FARM and Dairy readers who are interested in winter wheat production may have noticed a letter from Mr. E. Terrill, Nordumberland Co., on following corn with fall wheat, in our issue of last week. Incidentally Mr. Terrill made some remarks as to the causes of winter-killing, expressing the view that if the snow lay too long and too deep there is a chance of smothering the wheat. An editor of Farm and Dairy mentioned in reply that he had noticed on his own farm that the only place where the fall wheat was good this spring was where the snow had been deeper. Mr. Terrill writes us further, as follows:

"I have noticed that invariably our wheat is much the best along the fences where the snow lies the longest upon it, yet with our field of wheat this season there were three sides that were fairly good, or at least showed promise of half a crop, while on the other side the wheat was totally gone. If there was any differ-

ence as to the length of time the snow covered the wheat along the fences, it lay rather longer on the side where the wheat was entirely gone. There was a post and rail fence on this side, while on the other three sides the fences were the ordinary crooked rail fence. How can we account for this? Is it from the fact that along the ordinary rail fence the crop is to a certain extent protected from the cold wind, and consequently frost does not penetrate quite so deeply as it does a little distance away from the fence? Or is it partially due to the ground being more solid along the fences, being tramped more by the treading of the horses while preparing the ground and putting in the crop? Or would it be from the fact that the soil is rather porous, and the snow does not lie so tightly to the earth as on the filled land, thus giving the wheat adjacent to the fences breath, so that it is kept growing, although covered with snow? You see I am getting back to my old theory that winter wheat must get breath from some source.

"I have always been quite an extensive grower of fall wheat, and this one thing as to why the wheat is usually better along the fences where the snow lies longest, has always

been quite a query to me. I used to think that it was because the snow protected it in spring until after most of the thawing and freezing was over. I am not prepared to say yet that I am wrong in this idea. To offset this, however, I once had occasion to keep a winter road open across a field of wheat. The road ran angling across the field from southeast to north or northwest, so in order to keep the snow from filling in the track with the west wind, I took some surplus rails which I had on hand and built a fence on the west side of the track, with the combined object of keeping the snow from filling in the track, and also thinking the wheat would prove to be much benefited by the depth of snow that would accumulate for some distance on either side of the fence. As the winter months gave rather a surplus of snow, however, the wheat came through very poorly all over the field, and did not seem to be the least bit benefited by the holding of the snow by the temporary fence, and we were disappointed that it was not of any benefit to the wheat. So there remains a little mystery yet as to why it is that the wheat is commonly the best along our fences. What is your thought on the subject?"

Manure Worth \$5.50 a Ton

By J. P. Ingram.

THEY tell us that the commercial value of a ton of fresh horse manure is about \$5.50. The crop-increasing value is still more.

But that looks good, doesn't it? Now I'll wait a moment. We said fresh manure. How often does it happen to this pile if it is not properly taken care of.

Experiments tell us that if that ton should be a ton of manure in the yard about April 25th to September 25th, about six months, there will be a loss of 60 per cent. nitrogen, 47 per cent. phosphorus, and 76 per cent. of potash. The commercial value will have fallen from \$5.50 to \$2.35 per ton, a waste of \$3.15. Can you afford this?

The biggest help towards preventing such loss is a manure spreader. It saves so much time and labor that manure can be hauled out daily and spread on the field where it belongs. It's easy to spread with a spreader. The job is an odd job, as it is when spreading must be done by hand. Experimenters tell us that manure loses nothing by drying. The fermentation which goes on in the pile, causing loss of ammonia, stops when the manure is dried up. Of course, rains will fall on the manure spread on the field, but the plant food is washed into the soil where it belongs.

Many people are still of the idea that composting is necessary for liberation of the plant food. This may be necessary on truck farms, but actual experimenting along this line has shown that for general farm purposes composting is not necessary. Too much valuable plant food is lost by leaching and other processes. The plants cannot assimilate it fast enough.

Many, many tests have shown the spreader to pay for itself in one season on less than 15 acres of land, when compared its results with those of hand spreading. This is due to a more even distribution and the saving of labor and horse power.

The more liberal use of spreaders would be a mighty good thing.

HW Millet

IS "hog" millet suitable for conditions here in Ontario? How much seed per acre would you require and how late may it be sown? Does it need rich land?—T. Bruce Co., Ont.

Hog or brown cross millet is grown most extensively in the Dakotas and we know no reason why it should not succeed as well in Ontario as the common millet, which is generally grown. The seed should be sown from June 10th to 20th, as later seedings would be risky on account of fall frosts. Hog millet is a voracious feeder and requires strong land. Satisfactory crops cannot be expected from heavy or light soil. The variety of millet is not so suitable for farms as either the common or Japanese millets. It is, however, a heavy yielder of seed, and a common yield in the Dakotas is 25 bushels to the acre. Experiments show that a bushel of hog millet seed, ground into chop, will compare very favorably in pig feeding with a bushel of ground barley.

Spraying to Kill Mustard

By Prof. J. E. Hewitt.

IRON sulphate or copper can be used carefully with care to destroy mustards in standing grain without injury to the crop. A 20% solution should be applied. This can be prepared by dissolving 20 lbs. of iron sulphate in 40 gallons of water. Iron sulphate is dissolved quite readily in cold water. The solution should be strained through a cheesecloth as it is put into the spray pump tank. This will remove dirt and small particles that are apt to clog the nozzles.

Apply on a calm, clear day, just as soon as the first few plants in the fields show flowers. IT IS VERY IMPORTANT TO START EARLY. If a heavy rain comes within 24

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ROAN SHORTHORN BULL, one year old, from a heavy milk and butter producing cow. Price \$125. Write for all particulars. A. Bingley, Grimsby, Ont.

SMALL QUANTITY STATIONERY—120 sheets of letter paper 8 x 11; 100 envelopes—printed with name and address and business, in Ontario, P.E.I., other provinces extra postage 25c.—Order with order—Barrows' Printery, Beaverton, Ontario.

FOR SALE—Two bears, 2½ months old. Perfectly tame. Write for particulars. Mr. J. P. LaPorte, St. Charles, Ontario.

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hours after the solution is applied, it will be necessary to spray again.

An ordinary hand pump barrel sprayer, such as is employed to spray fruit trees may be used, or a potato sprayer can be rigged up to do the work. Many of the up-to-date potato sprayers have a special broadcast attachment for spraying weeds. These are excellent for large areas, as they cover a wide strip at each round. Care must be taken to see that every mustard plant is covered with the solution in the form of fine spray.

Iron sulphate may be obtained at any hardware store or from the Nichols Chemical Co., Toronto. In wholesale lots it is better purchased from this company, who can supply it much cheaper in large quantities than it can be purchased at local hardware stores.

Clearing Up Waste Land

EDITOR, Farm and Dairy—We usually have a little breathing space between seeding and harvest, when help is available, we have found this a good time to clear up waste land and remove obstructions in the plowed fields. When we moved on to our farm eight years ago, several of what should have been our best fields, were badly broken by stumps and stones. Every year at this season we have managed to do a little work in clearing away these obstructions. The stones we have usually blasted off. We have used various methods in getting rid of the stumps.

For stumps of average or even a fairly large size, the hand operated stump puller is a very effectual little machine. Its power is something wonderful. With our machine we have found it possible to pull out three or four small stumps at once. If the machine is of the side digging type, it is possible to dig around the roots on the side removed from the anchor selected for the stump puller and cut some of the largest of them. The stump is then easy to remove. We used blast- ing powder on the stumps and also, they finished the job with the stump puller. The amount of work that we have accomplished in any one year this way has never seemed very large, but the amount of work that we have accomplished in eight years, a little at a time, has made the difference between a farm difficult to work and one with fine clear fields.—"Pioneer," Muskoka Dist., Ont.

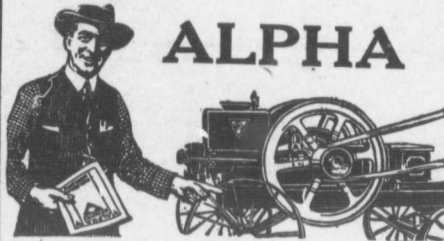
The Irrigation Convention

THE Western Canadian Irrigation Association will hold its 12th annual convention at Nelson, B. C., on July 24-25-26. The membership of this convention is distributed over the three provinces of Saskatchewan, Alberta and British Columbia. Among the speakers who have been promised to be at this year's convention are: John H. Bark, chief of the Irrigation Investigation Branch of the Canadian Pacific Railway, who will talk on "Dues in Connection with Irrigation"; Prof. F. Clement, of Vancouver, who will speak on "Orchard Problems"; E. P. Drake, Superintendent of Irrigation, Ottawa, whose subject is "The Conservation and Utilization of our Water Supply"; M. S. Middleton, Victoria, "What can the Farmer in South-Eastern British Columbia Afford to pay for Irrigation," and numerous other men well known in connection with the irrigation problems of Western Canada.

Business and pleasure will be combined at this convention and the Nelson people are setting themselves about to make preparations for entertainment on a schedule which, while it will be in keeping with the war spirit of the times, will lack nothing of the hospitality for which the pioneer, the prospector and the rancher are famed.

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\$100,000 is roughly estimated as loss Ontario farmers suffered in the great electrical storm of Tuesday night, June 11th. Barns were destroyed in almost every part of Southern and Eastern Ontario. Nearly all of this great loss could be saved by the proper rodding of buildings. Such has been proved by practical experience.

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FARM AND DAIRY REACHES THE FAR AWAY BUYERS As Well as the Nearer Ones

FARM AND DAIRY, R. R. No. 2, Gorrrie, Ont. PETERBORO, Ont. April 12th, 1913.

Dear Sir:— We had many inquiries for the bulls, some from all the Provinces East of Ontario. Could have sold them three or four times over.

Yours truly,

(Signed) W. L. LAMBKIN.

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BOOK DEPARTMENT

FARM AND DAIRY - Peterboro, Ont.



"Swat Him"

E. Bergey, B.S.A.

GET rid of the rooster! Sell him, kill him, can him, eat him, or do anything else you like to do with him, but get him away from your poultry!

Fertilization is responsible for heavy losses in the quality of eggs. This is made particularly true during the hot weather of July and August. A fertile egg, under a broody hen for 24 hours, is a total loss. In a temperature of even 70 degrees for any length of time fertile eggs will be spoiled. An infertile egg put under the same conditions will not spoil, though it will lose somewhat in quality.

Of the eggs inspected in Winnipeg during July and August, 1917, over 50% were unfit for use on the table; 15% were rotten; 46.5% were fit only for cooking and baking purposes. There was a dead loss of "broken and rots" of \$1,200. The indirect loss from poor quality is hard to estimate, but is very considerable. Moreover, these losses could be prevented by profaning only non-fertile eggs. Therefore, remove the male bird. He cost us too much.

A Hot Weather Calendar

By Prof. W. R. Graham.

THE road to victory—Keep hens that lay over 100 eggs yearly and feed them carefully; kill the rooster and sell infertile eggs; gather the eggs daily and keep in a cool place in clean baskets; send the eggs to market quickly and regularly.

The rooster, unless kept for next year's breeding, is too expensive a luxury to keep—and he'll help to leave the meat shortage.

The market for the cull stuff promises to be good this month—and by marketing in June the distribution is more equalized.

By eating the poor layers the farmer gains in two ways—he eliminates the profit takers from his flock and the lowers the meat bill for his table. The small farm flock of good layers is always more profitable and satisfactory than the large flock of poor layers.

The good layer of the yellow-legged breeds at this season loses the color from the feet and bill, and these latter become almost white. The sleek-plumaged, fat yellow-legged hens are usually very poor layers. It will pay to cull them out now.

The abdominal cavity, or the space between the pelvic bones (situated under the tail), and the end of the breast or keel bones should be relatively soft and flexible. If it is full of hard fat the hen is usually a very indifferent layer.

As a rule the earlier-maturing pullets are the earliest and most profitable layers. By marking these the best breeders may be selected.

In grading up a laying flock purchased eggs should be purchased. From the chicks good female breeding stock may be secured. The male may be secured in very many cases in Ontario, from eggs secured by children taking part in school fairs. Watch the school fair winners this year.

The Hen That Pays.

The hen that laid 123 eggs in 1917 made the same profit as the 123-egg hen in 1914.

The hen that laid less than 123 eggs in 1917 made a smaller profit than in 1914.

The hen that laid more eggs than 123 in 1917 made a larger profit than in 1914.

In view of the high price of food can the farmer afford to keep the poor-laying hens in 1918?

What and How to Feed.
Given ex-creta, sour skim milk, plenty of green feed and barley or oats (rolled) the farm flock of layers will give a good account of themselves.

It saves work to let the hens feed themselves—a hopper may be built at home without great expense.

Only abundant and well-graded hens will be found in the very heavy producing class.

Food plenty of the feeds you have on hand. Hens prefer rolled oats and barley to whole grain. A ration of one-third each of oats, barley and cracked corn gives first-class results. Supply plenty of tender green feed, shade and clean drink. Water should be given in abundance and must always be clean and fresh. Barnyard water is extremely bad. Sour skim milk is excellent.

Where the hopper plan of feeding is adopted on the farm the labor problem is much reduced. If the hoppers are kept supplied with grain there will be much less danger of underfeeding and producing stunted chicks.

Corn for Laying Hens

POULTRYMEN have quite generally agreed that wheat is better egg-producing food than corn. Experiments conducted at the Ohio experiment station, however, favor corn as the better of the two grains for feeding hens.

Of 50 pullets fed 24 weeks on a ration consisting largely of wheat, with some bran, meat scrap and dimes, 21 died. On the other diet, the next 25 weeks when corn was fed instead of wheat in the mixture. Only two hens died in the year in the lot fed mainly corn with no wheat.

Production decreased as the proportionate quantity of wheat fed in rations for 40 lots increased. Hens fed corn with a little bran, meat scrap and dimes, died in 25 weeks 58 per cent. more eggs than other hens similarly fed except that wheat replaced corn in the ration. The addition of wheat in the mixture fed in this experiment decreased the egg production and increased the cost per unit of production.

It would almost seem that in the Ohio experiments, fortune must have favored the corn diet. We have had excellent results, however, feeding corn as the sole scratch feed. An acre of husking corn should provide enough shelled grain to feed 100 hens for a year; and if the birds have access to a suitable dry mash—F. E. E.

The value of bran as a poultry food is not appreciated as it should be by poultry raisers. It is rich in protein. It is not being rich in carbohydrates it is of little value as a fattening food, but as a regulator of the system there is nothing better. The dry, fatty bran, free from middlings, is to be preferred to bran that is rich in middlings or low grade flour. In a mash it should be two parts bran to one part of other feeds. The dry, fatty and always by weight, not measurement, and kept constantly before the brooder chicks, will act wonderfully well in regulating the system of the chick, so that cases of bowel trouble will be scarce.

THE EDITOR'S FORTUNE.

A county editor out in Missouri recently settled with a comfortable fortune of \$50,000. His successor explains that the money was acquired by industry, economy, conscientious effort to give full value, indomitable perseverance, and the death of an uncle who left the editor \$49,999.95.—Buffalo Courier.

Fruit Crop

THE apple situation is out to that of what Miss, Nova Scotia crop, while in Ontario were very unfavorable conditions in view of these two provinces. In view of few varieties, and very considerably below in Ontario, prospects are generally good, perhaps more so in Ontario, Georgian Bay and York county. In view of the crop prospects, exceed that of a year ago.

Just how serious lumber crop has been from May 24 is made at this date. Over the apple crop, and therefore pressure to

frank earlier estimate of the crop, but still quite possible that of the province will year; this is due to trees just coming in average yield per tree is less than in 1912 in New York State.

western States is a sweet cherry crop, regularly in Niagara, and heavy in Ontario except in the little bloom in the Toronto. The season damaged the peach trees, and many dead trees in the 10 per cent. of the crop is not expected. A cent. of an average of 1000 lbs. per acre.

Hilton, Lambert, and the loss through wheat, even more than has been seen in Columbia fruit crop, only reduced by fruit crop will vary from the Burlington district in the Niagara district, and only a fair crop.

Grape vines have winter in good average crop is expected in Canada, the season has a large one, but the fruits have reduced to 20 per cent. of

Orchard Cov

THE main uses of in the orchard in the snow in winter, for greater roots of trees, and freezing of less the depth to will go in the soil; the matter in the purpose of obtaining nitrogen; and to act in autumn to prevent plant food made available. The cover means of reducing the soil by transpiration in ripening the trees liable to be injured. The soil has been long needs additional nitrogen, leguminous clovers and vetch take free nitrogen from the soil and a large useful and expensive soil at slight cost, while where the soil under cultivation supplied with humus non-leguminous or lukewarm may holding of snow and of the roots of the more important than

Orchard and Garden

Fruit Crop Report No. 1

THE present situation is quite different to that of a year ago. At that time it was remembered, Nova Scotia expected a large crop, while in Ontario the prospects were very unfavorable. Today the conditions are reversed as regards these two provinces. The Nova Scotian crop, with the exception of a few varieties, will probably fall considerably below 1917; late varieties are particularly affected. In Ontario prospects are generally quite promising, perhaps more so in Western Ontario, Georgian Bay and a piece of the county; in all districts, however, the crop promises to "greatly exceed that of a year ago.

Just how seriously the British Columbia crop has been reduced by the frost of May 24 it is difficult to estimate at this date. Apparently, however, the apple crop has been less injured than other fruits. We may therefore presume that in spite of the frost, earlier estimates are fairly accurate or but slightly reduced. It is quite possible that the total output of the province will equal that of last year; this is due to the number of trees just coming into bearing. The average yield per tree is expected to be less than in 1917. The apple crop in New York State and the Northwestern States is reported as heavy. Sweet cherries have bloomed irregularly in Niagara. All sour varieties bloomed heavily all over Western Ontario except in Essex. There is little bloom in the counties east of Toronto. The severe winter has damaged the peach crop. Conservative estimates place the number of dead trees in the Niagara district at 10 per cent. of those planted, and the crop is not expected to reach 50 per cent. of an average. In Essex, Kent, Halton, Lambton and Huron counties, the loss through winter killing has been even more extensive. The British Columbia fruit crop has been seriously reduced by frost. The pear crop will vary from 25 per cent. in the Burlington district to a full crop in the Niagara district. Plums will be only a fair crop.

Grape vines have come through the winter in good condition and an average crop is expected. In Eastern Canada the strawberry crop will be a large one, but in British Columbia frosts have reduced the crop to about 50 per cent. of normal.

Orchard Cover Crops

THE main uses of the cover crop in the orchard are: To hold the snow in winter and thus afford greater protection to the roots of trees; to prevent the thawing and freezing of the ground; to lessen the depth to which the frost will go in the soil; to furnish vegetable matter in the spring for the purpose of obtaining humus and nitrogen; and to act as a catch crop in autumn to prevent the leaching of plant food made available during the summer. The cover crop is also a means of reducing the moisture in the soil by transpiration and thus aids in ripening the wood of fruit trees liable to be injured. Where the soil has been long cultivated, and needs additional plant food, especially nitrogen, leguminous plants, such as clovers and vetches, which will take free nitrogen from the air and thus add a large quantity of this useful and expensive fertilizer to the soil at slight cost, are usually best; while where the soil has not been long under cultivation and is well supplied with humus and nitrogen, a non-leguminous plant such as rape or buckwheat may be better, as the holding of snow and the protection of the roots of the trees are then more important than adding fertility

to the soil, especially where the snowfall is light.

In the colder parts of Canada, where there is usually plenty of moisture in summer, it is better to sow seed for the cover crop in the first half of July or even in late June, rather than in the second half of July, as it is important to have the wood of trees thoroughly ripened before winter sets in, and by sowing the seed early the growth of the tree should be aided in ripening; by the drying of the soil caused by the transpiration of moisture from the growing cover crop. In the drier and milder parts of Canada it is not necessary to sow seed for the cover crop until about the middle of July, as the early ripening of the wood is not so important as the conserving of moisture in the soil by cultivation

through the early part of the summer.

No nurse crop is, as a rule, necessary. Some of the desirable characteristics of a good plant for cover crops are: first, that it will germinate quickly and grow rapidly, so that weeds will be checked. It should be a strong grower, as there should be a dense cover to prevent the frost from penetrating deeply into the ground. It should stand fairly erect, so that it will hold the snow well in winter. It should also be a plant which can be easily handled in the orchards. In districts where there is danger of making the soil too dry by a strong grower, as there should be chosen which will be killed by early frost, such as buckwheat. Some of the best plants for cover crops are: Mammoth red clover, crimson clo-

ver, hairy vetch, summer vetch, buckwheat and rape. The last has been found very useful on the Prairies for holding snow. Where weeds are not liable to spread into adjacent areas and cause extra labor they make a fair cover crop if allowed to grow up after the end of June.

Cabbage Worm Spray

THE common cabbage worm, the most destructive insect enemy of cabbage and related crops in Canada and the United States, begins its depredations as soon as the young plants are set out in the spring. Steps to combat it should be taken at an equally early date. These are now pointed out in Farmers' Bulletin 766 of the United States department of



You Certainly Owe Yourself a Gillette Safety Razor

DID you ever work so long and so hard before? Did you ever before get a chance to do so much for your country? Were you ever so well able to afford really good equipment—for your personal use as well as for your farm and home?

Certainly the effort you are making—and the returns—affile you not only to the auto—the modern machinery—the home conveniences—but to the last word in personal comfort, a Gillette Safety Razor.

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The Gillette Safety Razor takes all the "fussiness" and bother out of shaving. There's no honing nor stropping—no cautious working round the awkward corners—it will glide through your seasoned, thick-set beard as though you were seventeen again. If you have a boy around that age, don't make him go through what you did in learning to shave. Start him right with a Gillette.

Standard Gillette Sets, "Bulldogs", Pocket Editions and Military Sets cost from \$5.00 to \$7.00. Call at your Hardware, Drug or Jewelry dealer's and select.

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agriculture, "The Common Cabbage Worm."

Spraying with a solution of two pounds of powdered arsenate of lead, four pounds of arsenate of lead in the paste form, or one pound of Paris green to 50 gallons of water should be begun as soon as the plants are set out and should be repeated as often as examination of the plants shows it to be necessary. Sprays should be applied in a fine mist, since coarser applications tend to gather in drops on the leaves and run off.

Standard Mixed Feeds for Ontario

STEPS have been taken by the Ontario Provincial authorities to cope with the threatened shortage of concentrated cattle and hog feeds. With a view to meeting the situation with which Ontario will be confronted in the late summer and fall, and with the object of releasing to some extent some of the grain fit for human consumption that would otherwise be fed to livestock, Mr. C. F. Bailey, Assistant Deputy Minister of Agriculture, has made arrangements with the United States for the importation into Canada of a certain quantity of feeding stuffs, such as oil cake, cotton seed meal, gluten meal and corn, which will be used in compounding standard dairy meal and a standard swine meal. Mr. Bailey was in Washington recently. Upon his return to Toronto last week he addressed letters to the millers of the province, inviting them to be present at a meeting to be held in his office on June 13 for the purpose of making arrangements for the carrying out of the project.

As a means of having the ingredients in question imported into Canada, mixed, stored and distributed, it has been suggested that the millers of the province should undertake the work. "It is thought that it would not be a sound business proposition,"

says Mr. Bailey, "for anyone to undertake to purchase and distribute in the wholesale way which has suggested itself to the Resources Committee, unless that person or committee could handle at least sufficient of the raw materials to make a hundred cars of the finished product."

Formulae for Rations.

The formulae proposed to be used are as follows:

Dairy Cattle Rations.

	Per cent.
Hominy feed or corn	20
Corn or wheat bran	18
Cotton seed meal	19.5
Oil cake meal	12.5
Gluten feed	14
Dried beet pulp	9
Swine Ration.	
	Per cent.

Corn	45
Middlings	35
Oil meal	11
Tankage	8

It is further proposed that each person undertaking to go into this work should enter into a formal contract with the Committee.

By the proposed agreement the millers must purchase through one central personal agent to be appointed and paid by them the various articles or ingredients entering into the preparation of the feeds; they must assemble the same at convenient warehouses; they must sell, ship and distribute them only to such farmers' organizations or such other persons as shall be satisfactory to the Committee; they must maintain the standard of the feeds, according to the formulae; and must permit the Committee or its representatives to inspect the mills, warehouses or other places of storage, and the books, invoices, etc., at reasonable times. Other proposed clauses provide for monthly statements of the quantities sold, purchased or distributed, for maximum prices per ton, over the actual cost of the ingredients, and so on.

FARM CHATS

Lost Opportunity

H. Percy Billard, Hants Co., N.S.

THE hillside orchard is growing up in sod. There is beautiful, sweet grass coming up. Not every animal can be trusted in the orchard. The pony is there; but the pony is absolutely trustworthy. She is twenty-one years old, a British subject and, with female suffrage in force, is within two feet of being entitled to vote. She eats the grass and gets fat; and leaves the trees alone. We call her "Nan." The advantage of such a name is that it is the same no matter what the two yearling heifers ever and one starts from. And so is Nan, to go ahead or to back up; though, of course, the capital end is the "get up."

Now, with grass to spare, it seemed possible that the two yearling heifers might share in the orchard. They are very well bred calves, and come from a highly respectable, in fact, an aristocratic family. Their environment has been good. They have not mixed with the common herd. Everything seemed to promise they could be as fully trusted as Nan the impeccable. So I started to drive Emma and Laura to the orchard. On our way, we passed through a bunch of hardwood by the brook. Calves are hard to drive, and hard to coax. They got into the bushes; and to my surprise started to browse on the leaves of the small beeches. That was enough. As a matter of diet, those heifers were perfectly welcome to beech leaves if they preferred them to grass. But it indicated the depravity of their appetite. It was a test of tendency. All the good things of tender grass and clover that the orchard offered were shut out to them. The gate was closed; and back to the

common pasture go those heifers. The story of Eden may be an allegory, the apple just a fable. But to me the ancient story seems as true as things that happened yesterday. A bunch of beech leaves or an apple, their value is nothing in themselves; but they serve as an index of tendency and inclination. The gate of Paradise is closed to the untrustworthy. The bitter fruits of the tree of knowledge of good and evil must first be well digested, before the gate swings open again.

How many opportunities there are to-day waiting the young man or woman who is absolutely trustworthy. It is not always to do as we think honestly is best; but to follow orders. To allow our judgment to countermand instructions is to put our judgment above that of our superiors. There is where we are apt to fall down badly; to allow ourselves to be wiser than our commander. "And when the woman saw that the tree was good for food" she ate it, and we are told. It was a case, according to the records, of allowing immature judgment as to what was good to supersede positive instructions. It was not murder or other felony. It was just what lands so many young, yes and old people, in trouble to-day; a case of "I did not see any harm in eating beech leaves."

A Rolling Mistake

By "Thaddeus."

IT is not a usual practice to consider mistakes as capable of rolling. A few moments' thought, however, will reveal the fact that most of them do possess this disagreeable characteristic. Most mistakes, because of their rolling tendencies, demand retribution in some form, sooner or later. These truths have been very clearly forced upon my notice by a really true "rolling mistake."

One of my neighbors who, by the

way, is some farming operation represented in hood—the first to the first to the harvest, etc.—what that getting worth of consequently of spring when man was giving manifold advice during the winter of men officials sections of the preparation of The sowing was and immediate where my "roll The dry we that followed that man's mistake hard. The high and sickly mistake will when, from pro half crop will

forty years' ment agricultur more often used." Such bear out the in a common borhood to roll after sowing, detriment.

Before spring a number of various crops sow; and one of phically decided consider it paid and work the la 1917 he sowed os cultivation harvested after, yet he harvested year he treated but things ar will not yield tions. Another that continues Benjamin Fra "Experience kee feels will learn times our roll teachers in ex have learned f these two exam and misus it pays to work at all possible, ing it. In other plan is to prep time by carrot sows to the moe so that when come it will yea

The Size SUGGESTED A heifer fr months of tion found bu last annual mee Jersey Cattle C bers went so fa in their opinion, not figure the house of "The J crown Oregon Hogan, expressio He writes: "Our heavies 1,187½ lbs.; on The heifer with the least, weigh ment lowest to h heifer found in calve at a few d old. I believe s Because Jerseys we too often ge what a heifer w early and ruin ever, and not o have an ill infu erations. We heifer out of th growth. She is mlix. That is p give 40 to 45 lbs aged 60 lbs. for

NEW HAY TOOLS

Save your Time. Reduce the Labour of handling your crop of hay. Every extra hour spent in unloading your hay or sheaves in the barn may mean the loss of valuable seed. Time and weather wait for no man. Save Time and the weather—catch you with your crop hay in.

Equip your Barn with a Loudon Hay Carrier Equipment if you would make sure of saving every moment of time and ounce of energy possible in the filling of your mows.

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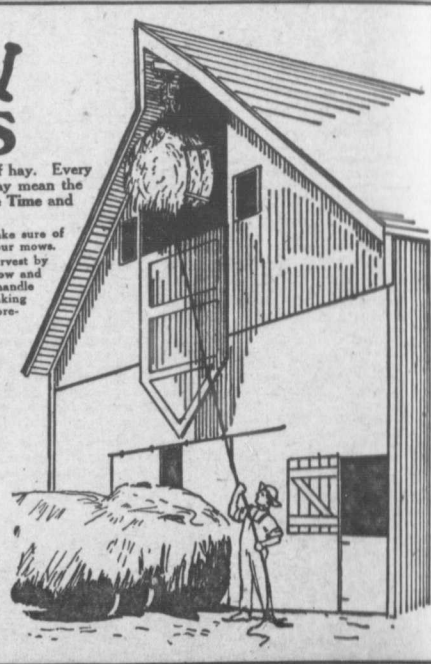
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000 heifers, an alligator, but to me the true as things are. A bunch of apples, their muscles, but of tendency of Paradise worthy. This man was giving lead to some of the manifold advice scattered so freely during the winter months by government officials and others re early seeding of spring wheat. At any rate he sowed the grain without any preparation of the ground whatever. The sowing was followed by harrowing and immediately rolled. This is where my "rolling mistake" comes in. The dry weather and cold winds that followed clearly showed this man's mistake. The ground baked hard. The wheat is only a few inches high and sickly in appearance. The mistake will roll on until harvest, when, from present prospects, only a half crop will meet the reaper's efforts.

Some years ago I heard a prominent agriculturist say that "the roller is more often abused than properly used." Such examples as cited above bear out the truth of his philosophy. It is a common practice in the neighborhood to roll the land immediately after sowing, usually to the owner's detriment.

Before spring work began this year a number of us were discussing the various crops we were intending to sow, and one of the group most emphatically declared that he did not consider it paid to cultivate, harrow and work the land for spring wheat. In 1917 he sowed his without any previous cultivation and did not get it all harrowed after the drilling was done, yet he harvested a bumper crop. This year he treated the land the same, but things are different. His harvest will not yield to equal his anticipations. Another instance of a mistake that continues to roll.

Benjamin Franklin once said that "Experience keeps a dear school, but fools will learn in no other." Oftentimes our "rolling mistakes" are the teachers in experience's school. I have learned from observation and these two examples of hasty preparation and misuse of implements, that it pays to work the soil right, and, if at all possible, know why we are doing it. In other words, the safest plan is to prepare our land at all times by careful cultivation, to conserve the moisture and plant food, so that when adverse seasons do come it will yield a profitable return.

The Size of the Jersey

A SUGGESTION that the calf of a heifer freshening under 15 months of age be refused registration found but little support at the last annual meeting of the Canadian Jersey Cattle Club. Several members went so far as to declare that, in their opinion, early freshening did not injure the Jersey. In a recent issue of "The Jersey Bulletin," a well-known Oregon breeder, D. Brooks Hogan, expresses a contrary opinion. He writes:

"Our heaviest mature cow weighs 1,197½ lbs.; our lightest, 810 lbs. The heifer with first calf, weighing the least, weighed 701 lbs., and the next lowest to her was 865 lbs. This heifer weighing 701 lbs. was bred to calve at a few days under two years old. I believe this is a sad mistake. Because Jerseys are quick to mature, we too often get in a hurry to see what a heifer will do, breed her too early and ruin the future cow. However, and not only that, but it will have an ill influence on coming generations. We have cheated this heifer out of three or four months' growth. She is giving 30 to 35 lbs. milk. That is good, but she should give 40 to 45 lbs., as her mates have done with first calf. Her dam averaged 60 lbs. for 140 days, and gave

72.3 lbs. her highest day, as a mature cow. We expect her to make 17,000 lbs. milk this year.

"Stunt the heifer, and she will always be a 'heifer,' and when she is old enough to be a cow she will cease to be 'cute' any more, but rather will become repulsive to the eye.

"We have another heifer, born the same day, out of a cow of about the same production as the dam of the one just mentioned. The two dams are about the same size. The two heifers have the same sire. The last one will not calve until she is two years and six months of age. She already outweighs her male 53 lbs., and has six months to grow before dropping a calf. We will lose six months' production waiting on this heifer, but will add six 'months' on to each year hereafter by so doing now."

Dehorn the Calves

THERE is no room for horns on the twentieth century farm, with its fenced fields and ample protection. It is much easier and more

humane to dehorn the calf just as the horns start to grow than to wait until the horns is grown and then saw it off. The following method has been found successful and satisfactory:

Clip the hair from the top of the horn when the calf is from two to five days old. Slightly moisten the end of the stick of caustic potash with water, or moisten the top of the horn, and rub the tip of each horn firmly with the potash for about a quarter of a minute, or until a slight impression has been made on the centre of the horn. The horns should be treated in this way from two to four times, at intervals of two minutes. If, during the interval of five minutes, after one or more applications, the blood appears in the centre of the horn, it will then be necessary only to give another very slight rubbing with the potash. The following directions should be carefully observed: The operation is best performed when the calf is from five to ten days old. Caustic potash can be obtained from any druggist in the form of a white stick. When not in use it should be kept in a stoppered glass bottle in a

dry place, as it rapidly deteriorates when exposed to the air. One man should hold the calf while an assistant uses the caustic. Roll a piece of tin-foil or brown paper around the end of the stick of potash, which is held by the fingers, so as not to injure the hand of the operator. Do not moisten the stick too much or the caustic may spread to the skin around the horn and destroy the flesh. For the same reason keep the calf from getting wet for some days after the operation. Be careful to rub on the centre of the horn and not around the side of it. Caustic potash is poisonous and must therefore be kept in a safe place.

The first thousand Fordson Tractors purchased from Henry Ford & Son by the Canada Food Board have been sold to Canadian farmers. Farmers who wish to secure such tractors in future should place their orders with the Department of Agriculture in their own province, and until further notice such orders will be handled in the same way as the first thousand.



What Will You Do For Help?

FARM help is scarce, but this condition can be relieved to a marked degree by using machines that accomplish more work in a given time with less man power.

Why should the farmer cling to horses—a slow, expensive means of power—when every other business is adopting the truck and thereby reducing the cost of hauling, speeding up deliveries, and saving for human needs the food that the horses would otherwise consume?

The motor driven truck can work constantly at maximum load under the burning summer sun, or in the coldest weather. Unlike the horse it needs no rests while working, it eats only while in actual use, and when the day's work is done it requires very little attention, and leaves you free for other "Chores" about the place. Then, it can be housed in one-quarter the space of the horses, wagon and harness it replaces. It is a mistaken idea that a truck is useful only for driving upon paved roads. The Ford can be driven all over the farm, and used for hauling grain, potatoes, fruit, roots, fertilizer, wood, stock, milk or any other product. The speed it travels, the time it saves, and its low upkeep cost appeal very strongly to all users of the Ford Truck. If you need help, order your Ford One Ton Truck today.

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Ford - - Ontario

My Ideal of a Farmers' Cooperative Association

(Continued from page 3.)

furnished. This may be accomplished by giving members of a cooperative creamery a vote for each cow, or members of a fruit exchange, where the fruit is similar in kind, a vote for each acre. The plan gives each member an influence corresponding to the interest he has at stake, and while a single small producer might seem to be swallowed up by his larger neighbors, a group of them would always be able to command recognition. Moreover, the danger of a few men gaining full control as in the case of voting by shares of stock is, in most instances obviated.

The Association and Its Authority.

Many a farmers' organization has gone to pieces because of the distasteful, shortsighted actions of certain of its members. One of the most usual sources of trouble of this character is the tendency of many members to sell to competing companies for perhaps, a trifle more than the farmers' company sees fit to offer. This difficulty has led many associations to put into their charters the so-called "penalty clause." This is a provision by which the members of the company are permitted to sell, or buy, where they please upon payment of a small amount, and sell out a bushel on grain, into their own company to enable it to exist while the business which it might normally expect is being done by its competitor.

This "penalty clause" or "sustaining clause" as it is sometimes called, has been declared illegal by some of the courts of the United States, and consequently in many instances, has become a dead letter. However, the same end may be attained by requiring the members of an association to sign an agreement to deliver all of their produce of the kind in question to the company to which they belong. The penalty for failure to comply with this provision is usually loss of membership in the company. If the advantage of the company are of any consequence it follows that they will not be harrassed by a smallness of potage in the form of a bid slightly higher, offered by a competitor. Just as truly as there are rules of the game to be followed in almost every organized undertaking, there must be such in connection with a farmers' organization and he who will not observe the rules does not deserve the privileges of the play.

Transfer of Shares.

In an ordinary corporation shares are freely transferable. This is in fact one of the most desirable and desirable features of the corporative form of business organization. In a cooperative company, however, this freedom of transfer is frequently curtailed in order that undesirable members may be taken into camp. The success of a farmers' company depends very largely on the stability and loyalty of its members, therefore the group should be allowed to control its own personnel. Where each member permitted to sell out to whomsoever he pleased this would obviously be impossible. While the law would not prohibit a company in putting severe limits on the right of a member to sell his shares, it seems to be permissible to require that the company be given the opportunity to make the sale for a member, or to buy the shares and hold them for subsequent disposal. It is a very prevalent practice to require members wishing to dispose of stock to list it with the secretary for sale, allowing him a certain number of days in which to act. Should no sale be made during that time the owner would then have the right to sell to any buyer whom he could find.

Sufficient Capital.

Farmers' associations need capital

as much as any other business organization does, but in many instances farmers have gone into business cooperatively with inadequate capital. After making a start with too little capital, it is especially hard to increase their lines until they acquire a great amount of skepticism concerning the success of farmers' undertakings.

A farmers' company has no excuse for going into a business venture with too little capital. Ordinarily the amount required from each farmer who goes into a cooperative undertaking is only from \$15 to \$200. And in cases where the farmer has the ready money, he can as a rule, give a note for it. A note of this kind may be paid in a lump sum, or it may be paid gradually withholding a certain part of the price of produce sold through the company. Another plan is to apply the trade dividend, where such is paid at all, to the discharge of the note. In this way the amount put into capital is scarcely felt since it is accumulated out of savings.

Another way to provide capital is for the association to borrow it. An organization of farmers should be, and usually is, able to borrow on fairly favorable terms and for as long a time as they wish. In some instances in Europe borrowing in this way is the means used to provide permanently a large share of the requisite capital. This is advantageous when the farmers are in debt anyway, and especially where there is a considerable amount of farm land, a great many of which are mortgaged. Money needed at different times of the year. However, the moral effect of independence and business solidity is such that it will be the part of wisdom to have the sum invested as permanent investment, not only subscribed but actually paid in, while a small surplus gives added confidence and dignity to the project. A farmers' company cannot afford to run without ample capital, and the members will be fortunate if they make their arrangements such that borrowing will be incidental and not the main foundation of the business.

Membership Not Exclusive.

A genuine cooperative company is not for the purpose of making money for the benefit of its patrons, but it, nor for the purpose of limiting production in order to raise prices to an abnormal level. It is for the purpose of encouraging production and reducing the costs of marketing. Hence there must be a disposition to admit to membership all who logically belong to the group. Of course the judgment of those already in must be exercised in the admission of others. It is always unfortunate to include mischief makers; it is similarly unfortunate to admit drones. But no fellow farmer should be excluded on the basis of the "closed shop" idea. Where such a policy is practiced the law forbidding combination in restraint of trade may very properly be invoked against it. Farmers have no more right than have other people to form a trust.

A Competent Manager Necessary.

It may almost be said that the members of a cooperative company do not cooperate among themselves, but each one cooperates with the manager. Certain it is that the members meet, in a business way, the manager many times where in the case of not cooperative companies, once. It is conceded that in successful cooperation the manager must actually manage. It is impossible for him to be merely the representative

of the board of directors. General policies should be formulated by the directors, but all matters of detail, the grading of the product, the judgment as to the condition of the market, the amount of labor to be employed, the necessity for more equipment,—all of these must be left mainly to the judgment of the manager. If a given manager is not to be trusted with such responsibilities it means that it is time to look for his successor.

During the early period of cooperative efforts in America few farmers appreciated the need of good business management. They were unwilling to pay what a good manager was worth. Their complaint was that the share going to the middleman was too large. Hence they did not propose to make the mistake of over-paying the man they themselves installed in the place of the middleman. The result was inevitable. They succeeded in getting men to manage their business, and the business not being well managed failed. At the present time most of the farmers' companies are in the hands of well-paid, trained men, and are conducted in a business-like way. It is as necessary to pay the market price for managerial ability in connection with a farmers' company as with a private concern. At the line of cooperative co-operation focus in the manager, and if this force is there dissipated all is lost. On the other hand, even though some of these lines are not successful, if they are in strong management they may be reinforced as to present all the evidence of strength. A good manager is the indispensable requisite of success in cooperation.

The Payment of Dividends.

There are two leading types of dividends paid on stock. One kind is limited to a prescribed percentage of the par value of the stock and under some circumstances is called a "pre-arranged dividend." The other, the common dividend is the more usual, and may be of any size, depending on the earnings of the company. In many farmers' companies organized under the general corporation laws of the state it has been a common practice to pay high dividends, not infrequently 50 or even 100 per cent. It is evident that where earnings on stock are high they are also the business done, and where the business is substantially all contributed by stockholders the dividends are first contributed by the owners. It follows that unless by rare accident the business furnished by each member corresponds exactly to the proportion of stock held, that money is made out of one member's business, which with other divisions of the company will go to the advantage of the other members. The way out of this is to pay a nominal dividend on stock, and either accumulate a surplus for distribution, as is often done by creameries, or to set aside the surplus periodically a trade dividend. The nominal stock dividend and the trade dividend are the essential features of the famous Rochdale plan of cooperation so successful in England.

The Federation of Cooperative Companies.

One great weakness of the cooperative company is its limitation to one little spot when the scope of the business demand is wide and of activity. For example, independent companies of many descriptions have found it advantageous to unite into unions or federations in very many instances. In some cases the rules have been done to eliminate unnecessary costs such as duplication of marketing expenses. Cooperative companies in this country have been slow to form such federations, but there are, however, a few notable examples of federations. The largest and best known is the California Fruit Exchange which is made up of district and local

companies. The United Farmers' Cooperative Co., Ltd., in Ontario is somewhat similar.

Not only can a federation hope to increase the efficiency of the marketing facilities of the local companies; but it can be of great service in furnishing information to the locals. It probably could keep adequate and uniform accounts, and thus render one of the greatest of services. This would lead naturally to the question of audits, and no other authority is in as good position to audit the accounts of the local companies as a federation or association of such companies. For future life into the cooperative movement a federation, or association, of local units is unquestionably of prime importance.

A Social and Educational Factor.

Cooperation in America has usually been carried on for the economic gain to be made out of it. Probably this gain must be considered a desirable, and a prominent feature. Business ventures are normally run for gain and it seems useless to insist that some other, though higher, motive be substituted. It does not, however, follow that the economic motive must be the sole end and aim of a group of farmers acting together in a cooperative capacity. Indeed, in Europe many a cooperative firm has had a social, experimental stage and where it controls a large portion of the business done by farmers, a vast amount of community work is carried on around the cooperative company as a unit. This work often takes the form of village improvements, such as street and park beautification, or perhaps recreation and entertainment in the form of a cooperative company as a unit. This work often takes the form of village improvements, such as street and park beautification, or perhaps recreation and entertainment in the form of a cooperative company as a unit. This work often takes the form of village improvements, such as street and park beautification, or perhaps recreation and entertainment in the form of a cooperative company as a unit.

A Farmer's Protest*

DITTOR, Farm and Dairy.—Sir: Robert Borden told the first deputation that he had been twice to France and that he had promoted and he told the second deputation that it was in the national interests. I am a son of a farmer working on a farm. I have a son who is a member of the stock. The way out of this is to pay a nominal dividend on stock, and either accumulate a surplus for distribution, as is often done by creameries, or to set aside the surplus periodically a trade dividend. The nominal stock dividend and the trade dividend are the essential features of the famous Rochdale plan of cooperation so successful in England.

* A reply to this letter will be found on page 14.

The telephone rang and the new Polish maid answered it.

"Hello!" came from the receiver.

"Hello!" answered the girl, flushed at the pride of a new language.

"Who is this?" again came the voice.

"I don't know who it is," said the girl. "I can't see you."

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Threshing Gangs for Ontario Next Fall

Some of the Difficulties to be Overcome and the Advantages of the System

THE threshing gang is not an untried experiment in Ontario. In certain counties, Lambton, for instance, these gangs have been employed and have proven successful. Neither the threshermen nor their farmer patrons in these cases care to return to the old methods of chancing help with neighbors when the men for the threshing gangs can be secured. The Ontario Department of Agriculture and the Ontario Trades and Labor Branch are now cooperating to make arrangements to ensure an ample supply of labor for as many threshing gangs as are likely to be organized this fall, and suggest hereinafter some of the difficulties and a plan of organization.

The Difficulties to Be Overcome.

(1) In the early part of harvest when many moves must be made and when comparatively small amounts of grain are threshed the thresherman finds it difficult, often, to make a profit even under present methods. If he employs a gang his expenses will be much smaller. His charges, therefore must be high enough so that later in the season he may regain what is lost at this time.

(2) But at any time during the threshing season there may be considerable idleness during the frequent changes from farm to farm caused by the comparatively small amount of grain to be threshed on the average farm. By good organization this lost time may be limited to the minimum, however, by having the majority of the changes made at night. When each farmer is permitted to spend all his time in harvesting his crops and is not obliged to help his neighbors thresh he can prepare for the threshing more expeditiously. This will make it easier to visit the farms more in rotation and to finish the work in one community before making a long haul to another.

(3) If the farmer were obliged to board the gang a certain element of unfairness could not be avoided. It would seem, therefore, that the threshing should be responsible for this. The most convenient way in Ontario, perhaps, would be for the threshing to make arrangements with each farmer to provide meals for the men, the threshing to pay for the same.

(4) The providing of sleeping quarters would also be an embarrassing matter to most farmers. It would seem necessary for each threshing to provide a sleeping van for his gang, and the men to provide blankets, as is done in the Northwest. These vans are hcmc-made and one can be constructed for the average Ontario gang for about \$100. If the threshing does his own building. Nothing fancy is required. A structure 10 feet wide by 12 feet long, built on trucks, wind-proof and rain-proof and with two tiers of bunks on each side would afford ample sleeping accommodations for an Ontario gang. The van could be trailed by the engine from place to place.

(5) Cash Payments or Notes.

(A) As several men constitute a gang, the weekly wage sheet would run fairly high. This would involve a considerable regular expenditure on the part of the threshing, which in turn would necessitate prompt payment by farmers. Where gangs are employed it is necessary for farmers to give cash or 30-day notes immediately the job is done.

(B) Probably the most important factor of all is the rates which the threshing will charge. These must, of course, be much higher than those charged formerly. This would make the threshing bill a large sum. Yet the farmer could still make a profit by the transaction. If, by employing a gang, he were enabled in the few weeks thus saved to prepare an additional 10 acres, say 10 wheat, he would have from 250 to 350 extra

bushels of this crop to sell in 1919. The total value of this wheat will hardly be less than from \$500 to \$770. Although the increased cost of threshing by the gang method would cost from \$30 to \$50 more, the increased revenue from crops would more than compensate for this outlay.

(7) The last problem is that of securing men. The average gang would probably consist of 5 men, as follows: engineer, blower man, feeder, grainman and four mow or stack-men. This would leave the farmer to take care of his straw and to supply another man to carry grain if one were not sufficient. A team of his horses would also be required to draw water. In organizing a gang of this nature, possibly not more than two or three could be secured in the locality where it was desired to operate. The Ontario Trades and Labor Branch will undertake to supply as many men as can be secured for this purpose. It is thought there will be no insuperable difficulty in securing 5,000 men for this purpose at reasonable wages, during the threshing months.

Organize a Gang in Your District.

It is suggested that Farmers' Clubs, other farmers' organizations, or groups of farmers without definite organization, consider at once an advisability of employing a threshing gang this fall. Call the local threshing man to the meeting, and confer with him regarding ways and means. Then, having reached a definite agreement, write Dr. W. A. Riddell, Superintendent Ontario Trades and Labor Branch, 15 Queen's Park, Toronto. Also any threshing man who wishes to organize a gang should write Dr. Riddell direct. In every case it will be necessary for a thorough understanding to exist between the threshing and his patrons. In order to get these men, however, it will be necessary for the applications to be in the office of Dr. W. A. Riddell, not later than July 10. Each application will be filled in the order in which it arrives—first come, first served.

Shower-baths for Farmers

HERE is an instance of simple ingenuity which deserves special mention: A very resourceful young man, who was finishing off his university agricultural course with a summer of practical experience on a Wisconsin farm, decided that a shower-bath was necessary to his health and comfort, and by very simple means soon furnished a solution to the much-discussed problem of bath accommodations for the dusty, sweaty summer helpers on the farm.

All necessary materials were readily provided by his employer, and the Wantabath set to work during his spare moments to construct the "bath." A portion of one of the out-buildings was roughly partitioned off for a room, the slope of the floor being such as to conduct the water to a drain-pipe fitted into one corner; a large wash tub was placed upon a six-foot-high shelf fastened to the outside of the building (so that the water could sun-bath) and a short length of water pipe extended from the tub, with a downward slant, through the wall. On the inside, a faucet (taken from an old oil stove), was attached to the pipe near the end, which was finished off with the nozzle from a large sprinkling can.

Of course everybody helped fill the "tank" by hanging pans of water up to the inventor he stood upon the steps leading to it. After that it was often filled by the rains, or that source of supply failing, the lend-a-hand friends were called in. Not a cent of the fun was in the making either. The shower-bath was used by all the household, even to a certain guest who survives to enjoy telling the story—"The Guest" in "The Farmer."

Rich Yet Delicate— Clean and Full of Aroma.



is blended from selected hill-grown teas, famed for their fine flavoury qualities. Imitated yet never equalled.

CANADIAN NATIONAL

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Alert Breeders will establish a reputation by exhibiting here

The Largest Prize List ever offered for horses, cattle, sheep, swine and poultry. New and better classifications in all departments

A Win at Toronto places you in the Front Rank of Breeders and Brings Many Buyers

WRITE NOW FOR PRIZE LIST TO John G. Kent, General Manager, 36 King Street East

Bacon for the Boys on the Battle Line



Will you help produce it? If you require meal to help balance the ration for your hogs give Caldwell's Hog Feed a trial. Our hog feed has found favor with many large feeders and breeders of hogs, and it therefore should be of special value to the patriotic beginner who is keeping a hog or two in the back yard, and knows little of their food requirements.

Feeding instructions come with every sack, and on the sack you will note the government analysis. The purity and uniformity of this food is guaranteed.

Do not delay ordering Caldwell's Hog Feed from your feedman; or write to us direct. Insist on getting CALDWELL'S.

The Caldwell Feed & Cereal Co., Limited
Dept. 1 DUNDAS, ONTARIO
Makers of all kinds of stock and Poultry Feeds.
(Capacity 100 tons daily).

BRINGING IN THE CASH

One way to do this is to increase your output by better methods of production—another is to conserve the feeding stuffs you now produce, making them go farther by carefully balancing the feeds. Study out this problem now. The one best book of which you know on this subject is "DAIRY FARMING," by Eckles & Warren. You can secure it from our Book Department. The price is but \$1.50, neatly bound in linen.

Book Dept. FARM AND DAIRY Peterboro

Letters to the Editor

Farm Dividends

EDITOR, Farm and Dairy.—The breach between city and country folk is widening. This fact is as regrettable as it is true. I fear that the average city man has come to look on the farmer as a profiteer. The increasing cost of his food stuffs he regards as just that much more clear profit to the producer. This frame of resentment has been fanned by the city press into something akin to open hostility to all things agricultural. The following from a Toronto daily shows the source of many of the wild statements that pass for truth in our cities and towns: "The individual farmer, no matter how large a scale he operates, is not subject to an excess profit tax, yet probably in cases during the last year or two his net profits have run to 100 to 150 per cent. on the invested capital. His position just now is enviable."

"Just think of that!" exclaims the reader who probably knows as little about farming as I know about running a street car. "Greater profits"

AD-TALK HOW MUCH IS MY HERD WORTH? Q UOTE often during the past few months I have been asked this question by breeders of various breeds of live stock. The great number of dispersion sales during the past year have set many breeders thinking about the matter. When they hear of the dispersion of a herd selling in between 20 and 30 thousand dollars they begin to wonder if they were in a similar herd they would they bring anywhere near this value. And so I have been candidly asked the question by breeders who are anxious it hard to "carry on," and to whom the temptation to turn the whole thing over for cash comes very strong.

"If I were to sell them, what should I expect them to bring me in cold cash? In other words, what are they worth?" This question is a very delicate one to answer. Naturally everyone thinks well of his own herd, just the same as in anything else, but the only answer which can be given to the question is that the value of a herd is determined not so much by what its owner thinks it is as by what the other fellow thinks of it. His estimation is what sets the price in the sale ring. A farmer may be producing a herd which his hands is producing about as much milk as the best. He may be as successful a breeder as anyone and have succeeded in making many extraordinary records, yet if his fellow breeders do not appreciate these facts they will not estimate the herd at its full value.

Now then can a breeder raise his herd to the estimation of his fellow breeders? How can he place his herd in such a position that if he were to sell he would get what he thought they were worth? The only answer is by keeping them continually in prominence through the advertising columns of the farm press. Do not merely use the press for definite sales, but rather as a means of obtaining valuable publicity, which will raise the value of every animal in the herd. Would the Milford herd have sold for what it did if Mr. Bretten had not advertised during the years previous to his dispersion? Would the Allison's sale have been such a success if they had done no advertising except that which they did immediately preceding the sale? Or can anyone expect to spring upon the public a practically unknown herd, no matter what its production value and what records it had made, and expect to get what it is worth?

Most assuredly not, and so if you are counting on having a dispersion during the coming year—of any possible value—your cause, you may be compelled to sell—just alone talk yourself the question—"What is my herd worth?" Not what you think it is worth, yourself, but what does the other fellow know? It is to make him appreciate its worth as you do. If you are not quite sure about the matter, take no chances. Start to advertise a publicity campaign. Don't confine yourself to Farm and Dairy alone. There is no better mind if correspondence comes when you don't want to get the value of the answering of that correspondence to still further increase the public knowledge of your stock.

Then, if your herd is right in other ways, when the time comes for the third effort, and your big sale ads, appear, you will be standing in a well cultivated field, which will bring far more results than your highest expectations. The other sheep estimates will be better raised to the same level as your own and that means "big prices." Now!

C. G. McHILL, C.M. Live Stock Dept., Farm and Dairy

than J. W. Flavell! No excess profit tax which even Flavell had to pay and now the farmer doesn't want to send his sons to fight!" And his resentment toward the farmer grows from warm to hot.

Now, Mr. Editor, I would like you to tell me some district where I can farm and make 100 to 150 per cent. on the invested capital. I think that I live in an good a district as there is in Old Ontario. The average 100 acre farm in our neighborhood, I should say, has a capital investment in real estate, stock and equipment of \$13,000. The man with a gross income of \$3,000 from his farm thinks that he is doing well. Out of this \$3,000 he must pay hired help, threshing bills, hay feed, seed, fertilizer, repair his implements and buildings, and finally he must have wages for himself and his family. What is left for profits would in most cases not pay over six per cent. on the investment even in war time, let alone 100 to 150 per cent.

But, perhaps city readers, if I could please my statements before them, might question my reliability. I would like to refer them then to a survey made in Caledon township of our county by the Ontario Department of Agriculture last fall. Last year was the best year they ever had in Caledon township, prices and crops both excellent.

The survey proves, however, that after allowing five per cent. on investment the average 100 acre farm in Caledon township returned a labor income for the farmer and his family of between \$1,000 and \$1,500. The average of the several hundred dollars profit of the thousand mark. On the most of these farms the farmers did not make as much money as the wages commanded by a good factory man. With figures such as this available, there is no excuse for the city editor talking wild tales of profits of 100 to 150 per cent. on the invested capital. From three to five per cent. would be nearer the average.

My observation is that the city man with an investment equal to that of the average farmer lives better, spends more money and takes more time to enjoy himself than does the farmer. But I have nothing against the city man. I would like to be his friend and have him regard me as a friend. Instead the whole tendency is in the opposite direction, and for this I hold the city press largely responsible, and I incline to believe that their editorial misrepresentations are not due so much to their ignorance of actual conditions, although doubtless they are ignorant enough, as to a desire to cater to what they consider to be the sentiments of their readers.—F. C. Smith, Peel Co. Ont.

Give the Man a Chance

EDITOR Farm and Dairy: I want the farmers of Canada to give the city man who comes out to work for him this harvest a chance. He is a patriotic man. He is anxious to help out in this crisis without food. He is not used to the work, and he doesn't know anything about farming to speak of in 75 cases out of a hundred. But he is willing. You can do anything with a man who is willing. It is all in the way a man thinks. If he is willing that is not only half the battle, it is 90 per cent. of it, because a man will work. He will try. You can teach him. He won't quit when he makes a mistake. He won't lie down when he is tired. He will realize that it is up to him to make good, and he will keep at it all the time. Of course, you have to make allowances. He is not a regular hired man. He is a war-time volunteer. He could not go to the front or he would have been in France before now. He wants to help out, and that is the best he can do. But I want to tell you that Great Britain is getting along with just such inexperienced farm help. Great Britain has lost most of her able-bodied men at the war. You know (Continued on page 23.)



An Ideal installed now will pay its own cost quicker than ever before

Thousands of Ideal Green Feed Silos have earned their own cost the first year on Canadian farms.

But an Ideal erected on your place this summer will pay for itself in less than time ever before. Why?

Because it will greatly reduce the amount of dry feed you'll have to provide for your stock next winter—and mill and grain feeds are higher than in many years.

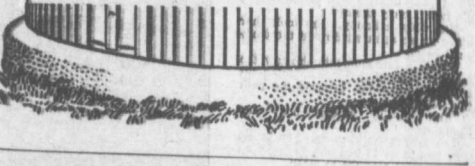
And because it will enable your cows to give 20 to 25 per cent more milk—and butter-fat is bringing 40 to 60 cents a pound, as against 20 to 30 cents in other years.

Figure it out. Write today for our illustrated sales catalogue. You've no time to lose if you hope to get your silo erected in time to take care of your 1918 corn crop.

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LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Also the best quality Alaska Churns and Butterworks. Catalogues of any of our lines mailed upon request.

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Advertisement for the New Man Milkers. Includes an illustration of a milking machine and text: "We cannot make all the Milking Machines in the World, so we only make the best of them. H. F. Bailey & Son, Galt, Ontario. Over 34,000 Sold Over 10 Years' Success."

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In the Fields



Wear the Sturdy FLEET FOOT SHOES

and enjoy the easy comfort which these economical shoes give.



is for work as well as for play. Staunch, sturdy styles like the "WORKMAN" and "EVERY-DAY" stand right up to any farm work—yet are light and easy, and enable you to tramp the fields all day without the feet getting over-tired.

The leading Shoe Stores have FLEET FOOT styles, shapes and sizes for every member of your family—for work or play.

None genuine without the name FLEET FOOT stamped on the sole. Look for the name.

The best Shoe Stores sell FLEET FOOT



You will say with a feeling of solid satisfaction—
it is now complete.

Peerless Lawn Fencing

is the finish, the last word to beautify, protect and to enhance the value of your property. It safeguards your children, keeps out marauding dogs, animals and destructive chickens, protects the lawn, shrubs and flowers, and prevents trespassing.

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SEND FOR CATALOG, showing complete details of fencing for lawns, parks, schools, churches, communities, etc. DEALERS NEARLY EVERYWHERE.

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When Writing Mention Farm and Dairy

BIRD HOUSES can make nests, but only one of our birds can make a roof for its nest, and perhaps the greatest enemy of the birds is the weather. Rain and hail often cause great destruction to our birds by driving the brooding bird from the nest and exposing the eggs to wet and hail, preventing incubation. Bird houses would prevent this. Then, again, birds migrate northward to escape the heat, and bird houses protect them from the sun. Most nests are quite exposed, and the poor bird has to make several trips a day to the pond or creek to cool its feathers and moisten its eggs. Another reason has been given



Homes for Flickers and Woodpeckers. for the migration of birds northward, that they go north to get more daylight and thereby escape the night, when owls, squirrels, weasels, fishers and other night prowlers get them. Bird houses will prevent this.

Any kind of a bird house is a greater protection than the bird can make for itself, for it cannot tear off bark, saw wood or drive nails, nor make a hole which will keep its enemies out. The boys and girls, therefore, can be of great assistance in protecting the birds, and get great pleasure in devising original home-like bird houses; the cruder and more natural the better, for the bird lives with nature and is accustomed only to bark and twigs. The bird house, therefore, should be made of bark or thin slabs with ample roof protection, and in every way just look like a part of the tree on which it hangs. I will then get the bird, for birds appreciate very much any protection, and this is no doubt why they come so close to our homes.

It is interesting to note the characteristics of various birds when it comes to building nests. The little house wren will build in almost any kind of protection which will keep out the sparrow. Their nests are frequently found in balls of binder twine, old shoes, teapots, old hats and even in an old hornet's nest. By leaving pieces of string around, the birds will gather them up for nest-making material. About half of our birds will do any size hole in bark or in thin slabs with ample roof protection, and in every way just look like a part of the tree on which it hangs. I will then get the bird, for birds appreciate very much any protection, and this is no doubt why they come so close to our homes.



Homes for Wrens, Bluebirds, Martins and Swallows.

as a roof, however, over their open nest. All prefer to build near our homes if we can keep the cats away. This can be done by hanging the bird houses from the limbs of the tree or by guarding posts or trees with a little barbed wire or a tin band. The flicker will return year after year to a home that is satisfactory.

Many fledglings fall out of the birds' shallow nests, and no doubt nearly all that fall out fall prey to cats. Bird houses prevent fledglings falling out. Make the hole high up

and never at the bottom, as the bird enters from the air and not from the ground. The bird house should be smaller at the bottom than at the top so as to take less material to build the bottom of the nest.

No doubt the bird people might be greatly interested if our boys and girls would put up rustic bird houses, nest-making material such as pieces of string, cloth, feathers, and so forth. However, we are showing a few types of bird houses, in which our young folks will be interested.

Practical Pointers on Vegetable Canning

Mrs. M. L. Weslard, Toronto.
THE great secret in canning is to have perfectly sterilized jars and fresh vegetables. Our early vegetables should be used as soon as possible after being picked or pulled, as after a few hours they are apt to lose much of their fresh flavor.

Perhaps as a demonstrator (once having had the privilege of demonstrating to over 6,000 people last season), I may give you a few hints concerning the canning of vegetables. A great many people cook their products too long. I can nearly all my vegetables by the three-day method, and know that for some vegetables it is the only sure way to have them keep and retain the real fresh flavor.

First put the perfectly clean sealers and glass covers in a large kettle or boiler, with a rack of some kind, and fill it with a few inches of water. Perhaps as a demonstrator (once having had the privilege of demonstrating to over 6,000 people last season), I may give you a few hints concerning the canning of vegetables. A great many people cook their products too long. I can nearly all my vegetables by the three-day method, and know that for some vegetables it is the only sure way to have them keep and retain the real fresh flavor.

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Next day I place the jars in the boiler again in water as warm as the jars will bear, and loosen the top while cooking. Repeat the process for the three days.

Scientists tell you that it is in the cooling-off process that bacteria develop. Thus, by cooking a short period each day, we can make sure we kill the bacteria.

By experience of years I know this method is the surest way for peas, beans, and greens of all varieties. Many have the idea that vegetables should be cooked in the jars for hours in order that they will keep. This is a great mistake, for too long

(Continued on page 21.)

Farmers Are Not
THE misundesta- between the far- or city, and w- growing in these days is a point which Mrs. of Oakwood, Ont., is see cleared away, and meeting of the statutes and Boards East and West Victa- Webster touched upon and in the few days postal, undevoured to of the reasons why standing does exist at

Mrs. John McNaughton
Mrs. McNaughton is Hon- of the Women's Section Growers' Association of the address a gathering of women of Ontario, who last week to discuss the forming a women's secti-

townpeople present it is not getting rich at the consumer.

Mrs. Webster drew a fact that it is the op- our public school, and rich out of pork and she prove that this conten- She pointed out that of previous to the meet- as a drop, although fea- ing sold to the farmer. "The farmer and the f- said Mrs. Webster, "we kept another brood sow our public school, and were asked to keep a has been done and mov- pigs are coming along, dropped. It would app- mears consider a few dredweight out of the fa- won't break him, even t- been producing at a lo- hundred dollars means a commission men. The ers are not working u- system. They know ea- they are going to get ea- feed the government. price of hogs, and the scarcity of hogs and th- produce, of course the p- forthcoming.

"The government says feed wheat to our pigs. up. We have grown th- even though it is dear, s- sibly be just as cheap- feed. The farmer has s- feed the allies and also a- hogs, but the government- him to feed it. We are- mercy of the middleman- government has said, we- the mill feeds at cost, c- tried again and again to- from the mills and they c- Somehow or other it is- middleman and we can- him for \$15 a ton. The- say the farmer is not pa- the government says. Pre- and yet we aren't fed- wouldn't the farmer be- cut out the pigs altoget- be grain? Being patrio- is producing those pigs-

Farmers Are Not Getting Rich

THE misunderstanding that exists between the farm and the town or city, and which seems to be growing in these days of high prices, is a point which Mrs. Frank Webster, of Oakwood, Ont., is very anxious to see cleared away. At the recent annual meeting of the Women's Institutes and Boards of Agriculture of East and West Victoria county, Mrs. Webster touched upon this matter and in the few minutes at her disposal, endeavored to point out some of the reasons why this misunderstanding does exist and to show to the

Another way in which Mrs. Webster pointed out that farmers are patriotic, was in citing a case of where a census had recently been taken in nine townships. This census showed that there was but one man to each 110 acres, and that included the men in the villages and towns in the nine townships. One man cannot work 110 acres without help.

In speaking of sending boys and girls from the towns and cities to the farms Mrs. Webster said that these boys and girls expected big wages, and that the farmers cannot pay these wages for inexperienced help. "The farmer might as well sell his farm and be a hired man himself," she said, "as endeavor to pay the wages asked by inexperienced help. I notice in yesterday's paper," continued Mrs. Webster, "that a few farmerettes are let-

ters who are willing to go to the farm and work. Their wages, however, are to be \$20 a month and their board. There isn't one farmer's wife in 40 who is getting \$20 a month and her board. These farmerettes work eight hours outside and two hours inside. I worked from four o'clock yesterday morning until 10 o'clock at night and it was purely from a patriotic standpoint."

Another point brought up by Mrs. Webster to show that the farmers are not getting rich was the fact that so many farm boys have gone to the towns and cities to seek employment. "The towns get the name of sending so many boys to the front," said Mrs. Webster. "I would just like to have a census taken and find out how many were born and raised on the farm, but went to the city because they

were offered better inducements and could make more money. A great many farmers have sold their farms to their neighbors and gone to town. The neighbors really didn't need the land, but when they could get it right next their own farms, in many cases they purchased it. As a result when the war broke out, farmers had more land on their hands than they could handle.

"I know this great misunderstanding between the producer and consumer exists," said Mrs. Webster in conclusion, "and I would like to see more meetings such as this one where these questions might be discussed. We are just as honest in our aims to produce as any class. We should all be working to-day to win the war, regardless of whether the money goes down into our pockets or not."



Mrs. John McNaughton, Harris, Sask.

Mrs. McNaughton is Honorary Secretary of the Women's Section of the Grain Growers' Association of Saskatchewan. She addressed a gathering of prominent women of Ontario, who met in Toronto last week to discuss the advisability of forming a women's section of the U.F.O.

townspeople present that the farmer is not getting rich at the expense of the consumer.

Mrs. Webster drew attention to the fact that it is the opinion of many consumers that farmers are getting rich out of pork and she undertook to prove that this contention was wrong. She pointed out that only the day previous to the meeting hogs had taken a drop, although feed was not being sold to the farmer any cheaper. "The farmer and the farmer's wife," said Mrs. Webster, "were asked to keep another brood sow and through our public schools our farm children were asked to keep another. This has been done and now when these pigs are coming along, the price has dropped. It would appear that the pickers consider a few dollars a hundredweight out of the farmer's pocket won't break him, even though he has been producing at a loss, and a few hundred dollars means a lot to the commission men. The auction workers are not working under such a system. They know just how much they are going to get each day. When we wanted the government to set the price of hogs, they assured us of the scarcity of hogs and that if we would produce, of course the price would be forthcoming.

"The government says we must not feed wheat to our pigs. We are tied up. We have grown that wheat and even though it is dear, it will probably be just as cheap as any other feed. The farmer has grown it to feed the allies and also as feed for his hogs, but the government won't allow hogs to be fed it. We are right at the mercy of the middleman again. The government has said, we will give you the mill feeds at cost. Our club has tried again and again to get shorts from the mills and they cannot buy it. Somehow or other it is sold to the middleman and we can get it through him for \$15 a ton. The townspeople say the farmer is not patriotic. When the government says, 'Produce wheat' and yet we aren't feed it to pigs, wouldn't the farmer be farther ahead if he cut out the pigs altogether and sell the grain? Being patriotic, however, he is producing those pigs."

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PETERBORO Ontario

Practical Pointers on Vegetable Canning

(Continued from page 18.)

cooking softens the product and takes from the flavor.

All the vegetables that were in the Government exhibit, Institutes Branch, at Toronto National Exhibition, 1917, with the exception of the tomatoes and cauliflower, were canned by the three-day method. This exhibit has been moved repeatedly since then to other places for exhibition purposes, and was exhibited at the Horse Show in the Arena, April 15th to 20th, and is in just as good condition as when first canned in July, 1917. Not one jar has spoiled, despite the handling so often. Cans that have been opened have the splendid flavor of fresh vegetables. All are up to the mark in flavor and coloring.

Trouble With Asters

HAVE any of Our Women Folk had trouble in previous years with their aster plants? We recently heard of a woman who for the last couple of years has found asters difficult to grow in her garden. They kept dying and when pulled up, little insects would be noticed on the roots. They looked like ants and seemed to hatch out on the roots. Probably some of our readers have had similar trouble and the following suggestions may prove helpful this year in keeping the aster plants healthy.

The aster plants described above were no doubt attacked by what is known as the white aphid. The ants are largely responsible for the aphid being there. The best remedies are as follows:

Make a solution of tobacco water by putting about two pounds of tobacco stems (refuse) from a cigar factory into a pail, filling the pail up with boiling soap suds. Cover it over with a thick cloth, and allow it to cool. When cool dilute with about one-quarter part of water. An application of this could be made about once a week sufficient to moisten the soil around the plants. Another good preventive is to dig in soot or wood ashes, or both, into the soil before the seed is sown, or the plants set out, or a solution of soot water could be made by thoroughly mixing about one pint of soft coal soot in a pail of water, and giving the plants a watering with this every week or 10 days. It is best not to plant the asters in the same ground each year. Plant them in another part of the garden. When once the aphid attacks asters it is very difficult to eradicate them without injury to the plants. Growing them in a fresh place is the best plan to get rid of this pest.

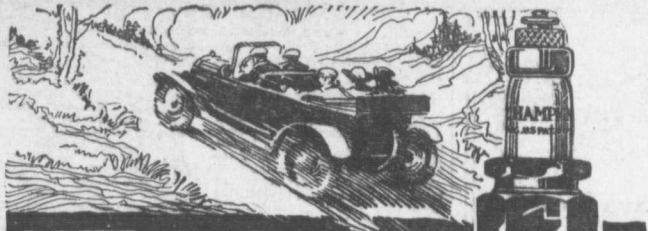
And He Was Drafted

AMARRIED man of draft age, who couldn't read, asked his wife to write a note to the exemption board stating the family was dependent upon him. Here is the note that the wife wrote and the husband presented to the board:

"Dear United States army—My husband ask me to write you a recommendation that he supports his family. He cannot read, so don't tell him, just take him. He ain't no good to me. He ain't done nothing but drink hemmen essence and play the fiddle since I married him eight years ago, and I gotta feed seven kids of his. Maybe you can get him to carry a gun. He's good on squirrels and can take him and welcome. I need his grub and his bed for the kids. Don't tell him this, but take him."

OMINOUS.

Newest Boarder—Is this a nice, quiet place?
 Oldest Boarder—[I] guarantee you will never be disturbed by the table groaning.—Buffalo Express.



Maxwell Ability Emphasized by Champions

The ability of the Maxwell to take most any kind of road without apparent effort is the direct result of selecting equipment of the same high standard as the car itself.

Champion Dependable Spark Plugs



Champion "Minute" Spark Plug Cleaner

Every motorist should have one. Cleans a set of plugs perfectly in a few minutes without taking them apart or even getting your hands dirty. All you have to do is hold it in the tube with position, screw in the plug and shake for a moment.

Sells for \$1.00

were developed for and are factory equipment on all Maxwell cars—this is the strongest proof that your replacements should be Champions.

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Dealers everywhere sell Champions that are particularly adapted to your motor.

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FROST & WOOD BINDER

has practically grown up, in the last 80 years, with Canadian Agriculture and has been improved and tested until to-day it represents the Ideal Binder for Canadian crops.

The crop won't wait---your binder must be ready

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easy, convenient lever to bring any kind of grain, tangled or not, to the cutter bar and once there Frost & Wood force feed elevators can be absolutely relied upon to deliver it to the binder, and the sure tying knottor. By another easy adjustment you can tie any size sheaf you want—and even the sheaf carrier is well thought out—lowering the sheaves gently and regularly to the ground so no grain is shelled. A Frost & Wood Binder is a guarantee that you'll get your crop in. Many are in use up to 80 years old, giving fine service.

This Binder question is a mighty important one. Be sure to read our Illustrated Binder folder—ask our nearest agent or write our nearest Branch today.

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The wheels are high and wide apart making the draft very light, the frame is strong and all bearings are in perfect alignment and fitted with renewable boxes or roller bearings.

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ADVERTISE in these popular columns, which others and so profitable—costs you only 2.00 per line.

In the Spy Net

(Continued from page 16.)

He leaned toward her, his cigar unlighted between his tense fingers, as if to miss no word she spoke.

"THEN the next day when I went down to see Liza's grand-daughter started to walk home by the beach road, and by mere chance I saw a boat making for the shore. I saw a man get out of the boat and put himself in the sand. I found it to be a message in code. That night I got Liza to obtain your red leather book, and I deciphered the message. I learned then that you were to leave my country on the twenty-third, and I also learned the terrible thing I had feared was true." Stackpole looked as if he would never recover from his astonishment. "What courage!" he said at last. "And what shrewdness! I cannot help admiring it, no matter what its cost may be to me."

He looked into the fire for a moment, as if endeavoring to become calm. "So when you found out what my work was, you knew that you could never share my life?"

"Of course I couldn't! I could forgive anything in the world but that. Oh, I know that you may look upon your work as being necessary, and even honorable, but I cannot. No doubt my own country employs men somewhat in your capacity, but I do not believe that they necessarily take lives for me to comprehend that you, of all people, could so manipulate your plans as to cause death and destruction to poor boys who have never even been in battle. Surely it is not fair—even you cannot think it is fair—to strike in the dark!"

His face had grown white. "I don't think I quite understand you," he said.

"Take the Stephan, for example. Not because it's named for Father, but because three young lives—boys not over twenty—have already been killed because of the work you and your agents have done in attempting to cripple the boat before she can even get into the war. War is bad enough, but this cowardly fighting is inexcusable; and you ask me if I could share life with you—an enemy of my country!"

Suddenly she heard in the distance the sound of dry leaves being crunched underfoot. As the sounds came nearer, Stackpole turned sharply.

He spoke quickly, as if fearful of being interrupted by this intruder. "Eugenia, there is one thing I must know—one thing that you owe to yourself and to tell me the truth about. If it had not been for this one unpardonable thing, would you have shared life with me? Would you have married me, had I asked all these dangers and discomforts for me?"

"Yes, gladly!" she cried. He made a movement as if to take her in his arms, but at the loud pealing of the door-bell he broke.

In another moment old Sam came in, trembling with excitement. "Two gentlemen, Miss 'Gemia. One waiting outside, and the other has come in. Says he's expecting him."

"Show him in when I ring his bell."

As the door closed behind the servant, she rose.

"Carl," she said firmly, putting her hand in his, "I must tell you this: Nothing in the world could have kept me from sharing life with you except that you are an enemy of my country. I told you once that my standards were more like those of men than of women. Would you draw that is true. You say that for a man there is something higher than love, so it is with me. When you have gone, the house will be empty and lonely beyond anything you can dream of. But each of us has to do that which seems right. You put your country first. I put mine. Your task has been difficult;

so has mine. And now I must say good-by."

She pulled violently at the bell cord. "What do you mean?" he gasped. As if in answer to his question the door opened and a short, round man almost leaped into the room.

Eugenia went forward to meet him. "Where is he?" he demanded. "She saw that in his right hand he carried a letter." "Put that down!" she said. "You will have no need for force."

Reluctantly the newcomer pocketed his gun. "Is that him?" he said, looking at the tall figure of Stackpole.

"Yes." Stackpole moved into the light. "What is the meaning of all this, Demling?" he demanded sternly.

"Good God, it's the chief!" cried Demling, his round mouth falling open. "Then he turned toward Eugenia. "But I thought you told me that you wanted someone to come down here to get a man?"

"So I did. That is the man."

"This isn't a frame-up joke on me, is it?" inquired Demling.

"Of course it's not," replied the girl sharply, feeling that a prolongation of this scene would irritate her mad. "I thought you to come down here and get a man who is damaging, directly or indirectly, our navy—a dangerous enemy of our country. Now, here is the man."

Demling looked at Stackpole. Suddenly comprehending, he rocked with laughter. When at last he was able to speak, he said shakingly to the girl himself: "He's stupid. 'Oh, this is rich!'"

"The Chief of the Intelligence Bureau of the Department, he means," Stackpole explained.

"Of my country?"

"Yes, ma'am—the chief himself, the one you wrote the letter to."

"Then, as the personal aspect of the situation struck him, and he realized how ridiculous he must seem in the eyes of his chief, Demling turned on Eugenia.

"It seems to me, miss, that if you could have learned so much about his actions and his work down here, you might have found out a little more, so that you wouldn't have written that letter. Why, I'll be a laughing-stock!"

He addressed Stackpole now.

"YOU see, nobody took any stock in that letter but me—I sounded so convincing; and, moreover, in this part of the country on account of that Stephan business. You were away, and we didn't know where to get you. In fact, we thought you might already be in Europe, so I came on my own hook. I had promised to take Mrs. Demling to Atlantic City, too. A nice time I'll have it when I get back!"

"Not so fast. If you are discreet enough to keep still, there need be no trouble for you when you get back. I've been wanting a good man to help me on my job, and you can just stay and do it. You see, Miss Stephan was quite right in thinking that I was interested in the fate of the Stephan. Only, the thing she couldn't see was that I was interested in saving the boat, not in injuring it. You see, we got word that one of the crew was a German, or in the employ of the Germans; but we couldn't locate the base at night, and helping them, and finally, two days ago, we nabbed him. He was one of the mechanics that nobody suspected. Now, you stay down here, you see, Demling, and when you go back you can say that you and the chief worked together on a little job."

Demling's eyes shone. "Then you have been in Europe?" he asked, apparently eager to avail himself of this rare opportunity to be taken into the chief's confidence.

"No; I'm going very soon. I was ill when I left Washington, and I intend

ed to take a rest. Then this thing came up, and I delayed going until it was settled—and for other reasons too. You were quite right to come down to know that Miss Stephan's letter was worth anything. In fact, although it is still a secret, I am hoping that she herself may be persuaded to join the Service. Is that right, Eugenia?"

The girl, still dazzled by the emotional crises through which she had passed in such a brief space of time, read his meaning in his earnest dark eyes. She continued looking at him and, although tears blurred her vision, her smile revealed her happiness.

She said, and the words were simple, yet in them she pledged herself for all life: "Everything is right!"

[THE END]

Driving Home the Cows

K. P. Osgood.

OUT of the clover and blue-eyed grass He turned them into the rye-fields; And another he let them pass, Then fastened the meadow-hay again.

Under the willows, and over the hill He patiently followed their sober pace;

The merry whistle for once was still, And something shadowed the sunny face.

Only a boy! and his father had said He never could let his youngest go; Two already were lying dead Under the feet of the trampling foe.

But after the evening work was done, And the frogs were loud in the meadow-swamp,

Over his shoulder he slung his gun, And stealthily followed the foot-path damp.

Across the clover, and through the wheat, With resolute heart and purpose grim,

Though cold was the dew on his burrying feet, And the blind bat's flitting started him.

Thrice since then had the lanes been white, And the orchards sweet with apple-bloom;

And now, when the cows came back at night, The feeble farmer drove them home, For news had come to the lonely farm That three were lying where two had lain;

And the old man's tremulous, pained arm Could never lean on a son's again.

The summer day grew cool and late, He went for the cows when the west was done;

But down the lane, as he opened the gate, He saw them coming one by one: Brindle, Ebony, Speckle, and Bess, Shaking their horns in the evening wind;

Cropping the buttercups out of the grass— But who was it following close behind?

Loosely swung in the idle air, The empty sleeve of a khaki suit; And worn and pale, from the crisp, short hair,

Looked a face the father never in got. For German prisons will sometimes yawn,

And yield their dead unto life again, And the day that comes with a cloudy

in golden glory at last may wash tears eyes;

For the heart must speak when the lips are dumb;

And under the silent evening sky Together they follow the cattle home.

Give the Man

(Continued from page 16.)

yourself that one out of the total population is in England—only 1 in England as compared with every 100 in Canada. You know yourself that in the population of 2,700,000 were conscripts, of which over 2 million have been killed and 700,000 have been further service. You know the fate of French women to a plow because a horse, the horse has been conscripted for the army, nobody left at home to work in France but women and crippled soldiers. B. not get quit yet, nor be not by a good bit. In last year, with the aid of non-combatant population, more cereals than before and increased by 5,000,000 tons! In the cultivated area of one million acres.

Why talk of conscription labor at a time like this? The whole world is just a balance? You cannot see how much expense is being incurred. The man has to do his mind that he is willing, or has to do so to his advantage and consideration to his job.munition business. You broke out Canada doing things about making more a rifle factory do where she made a few get practice and use. But, phaw! that was his. In 1914 the Government manufacturers going.

only learn how to make they learned how to make to make the munitions they have turned out millions of dollars' worth in the four years' war. Now, shipped to Europe for use. But, phaw! that was his. In 1914 the Government manufacturers going.

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Give the Man a Chance

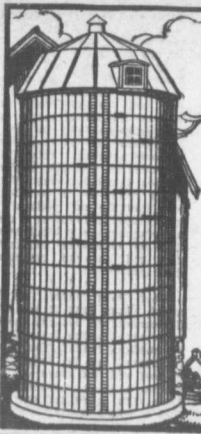
(Continue from page 15.)

yourself that one out of every seven of the total population of Scotland is in the army—one out of every 12 in England as compared to one out of every 20 in Canada. You know yourself that in France out of the population of 29,000,000, about 7,000,000 were conscripted for the army, of which over one million have been killed and more than another million have been incapacitated for further service. You have seen pictures of French women hitched up to a plow because there were no horses, the horses having been also conscripted for the army. There is nobody left at home to do farm work in France but women, old men and crippled soldiers. But France has not quit yet, nor has England quit—not by a good bit. England produced last year, with the aid of her civilian non-combatant population, 850,000 tons more cereals than the year before and increased her potato crop by 5,000,000 tons! She increased the cultivated area of the island by one million acres.

Why talk about "inexperienced" labor at a time like this when the whole world is just shaking in the balance? You cannot stop to talk about how much experience a man has when he tackles a job. All that man has to do is to make up his mind that he is willing. All the farmer has to do is to have a little patience and consideration until he gets on to his job. Look at the munition business. When the war broke out Canada didn't know anything about making munitions. She had a rifle factory down in Quebec where she made a few rifles for target practice and militia purposes. But, behav! that was only a drop in the bucket. In 1914 the Government got the manufacturers going. They didn't only learn how to make munitions; they learned how to make the steel to make the munitions with, and they have turned out hundreds of millions of dollars' worth of shells in the four years which have followed, shipped them across to the firing line, and put them to the only use for which they were intended—killing Germans; and they are just as good as the best at that.

Shells of all calibres, from the biggest to the smallest, and the finest intricate mechanical contrivances in connection with shells, like fuses and time charges, have been turned out. This is an absolutely new industry in this country, and who learned it? Were they experienced mechanics? A few of them were, but the bulk of the work was turned out by women and greenhorns. The same thing in England exactly. In 1917 they took 820,645 men from the industrial organizations and put them into the army, and they filled their places in the factories by women—804,000 women. You would think that the industry of the whole country would have been wrecked. But was it? You know perfectly well that the output of guns from the British factories increased 20%, and in the case of aeroplanes 250%. In spite of its shortage of skilled men for the shipyards, by the help of inexperienced labor, including women, they turned out 1,165,000 tons of British ships last year.

We have got to organize inexperienced help this year on Canadian farms—towns-men of all classes, women and boys. We have got to save the harvest. We are appealing to all classes of people to get out on the farm. Give them a chance. Be patient with them. Teach them, and do the best you can. Go at it in the right spirit and they will do the same, and you can bet your boots Canada will produce the goods in 1918 that they are starving for across the Atlantic.—H. B. Thomson, Chairman Canada Food Board.



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PUBLIC NOTICE

Military Service Act, 1917.

Men 19 and 20 Years of Age.
Harvest Leave.

Leave of Absence on Ground of Extreme Hardship.
Procedure to obtain Leave of Absence.

Men Nineteen and Twenty Years of Age.

It has come to the attention of the Government that there is a widespread impression that young men of nineteen years, and those who became twenty since October 13, 1917, as well as those who may become nineteen from time to time and who have been or will be called upon to register under the Military Service Act, are to be immediately called to the colours.

This impression is quite incorrect. No date has yet been fixed for calling upon such men to so report for duty, nor has the question been brought before the Cabinet for decision. In view of the need of labour on the farm, it is most unlikely that consideration will be given to the matter until after the harvest is over, although of course the Government's action must be determined primarily by the military situation.

There is no further obligation incumbent upon young men of the ages above mentioned who have registered or who do so hereafter, until they receive notice from the Registrars.

Harvest Leave.

Some enquiries have been received as to the possibility of granting harvest leave to such troops as may be in the country at that time. No definite assurance can be given on this point as advantage must be taken of ships as they become available. On the other hand, harvest leave will be given if at all possible.

Leave of Absence on Grounds of Extreme Hardship.

It is desired that the Regulations respecting leave of absence in cases of hardship should be widely known and fully understood. Such leave will be granted in two cases:— (a) where extreme hardship arises by reason of the fact that the man concerned is either the only son capable of earning a livelihood, of a father killed or disabled on service or presently in service overseas, or in training for such service, or under treatment after returning from overseas; or the only remaining of two or more brothers capable of earning a livelihood (the other brother or brothers having been killed or disabled on service, or being presently in service overseas, or in training for overseas or under treatment after his or their return from overseas); brothers married before 4th August, 1914, living in separate establishments and having a child or children not to be counted, in determining the fact that the man is the "only" remaining son or brother; (b) where extreme hardship arises by reason of exceptional circumstances such as the fact that the man concerned is the sole support of a widowed mother, an invalid father or other helpless dependents.

It is to be noted that in all these cases the governing factor is not hardship, loss or suffering to the individual concerned, but to others, that is, members of his family or those depending upon him.

Procedure to obtain leave of absence.

A simple system for dealing with these cases has been adopted. Forms of application have been supplied to every Depot Battalion and an officer of each battalion has been detailed whose duty it is to give them immediate attention. The man concerned should on reporting to his unit state that he desires to apply for leave of absence on one or more of the grounds mentioned and his application form will then be filled out and forwarded to Militia Headquarters, Ottawa. In the meantime, if the case appears meritorious, the man will be given provisional leave of absence for thirty days so that he may return home and continue his civil occupation while his case is being finally disposed of.

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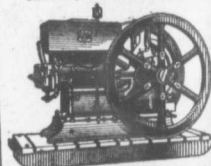


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