

FARM AND DAIRY  
&  
RURAL HOME



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BETTER FARMING  
AND CANADIAN  
COUNTRY LIFE



Jan 13  
1917  
Conservation  
of  
Country  
Life

Toronto, Ont., October 11, 1917



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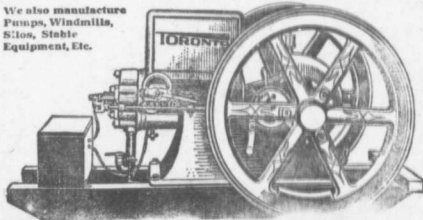
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TORONTO and MONTREAL.

## Current Comments on the Farming Business

### The Milk Situation

WHAT promised to be a deadlock between the milk dealers of Toronto and the Milk Producers' Association, has been avoided by a compromise arranged at the request of Food Controller Hanna. The Producers' Association were demanding \$2.50 per 5 gallons can, delivered at the dairies for seven months, starting Oct. 1st. The compromise price will be \$2.30 a can for the month of October only. A similar request was made when it was announced that prices would go up on Oct. 1st at Halifax, N.S. This request, however, was not accepted and consumers are now paying 15 cents a quart for 1-lb. milk in Halifax. The Montreal Milk Producers' Association have decided that milk should realize at least 30 cents a gallon delivered in the city for the months of October, November and December. Similar prices are asked by the producers in the Hamilton, London and Ottawa districts. The attitude of the city press toward the increases requested, is interesting. With rare and notable exceptions, city editors are picturing the producers as extortioners and war profiteers, and are refusing to give adequate attention to the very real problems with which the city milk producer has to cope this coming winter.

A comparison with prices asked for elsewhere, would seem to indicate that milk producers supplying Canadian cities are not unreasonable in their demands. Allowing 30 cents for delivery charges, \$2.50 a can is equivalent to only \$2.87½ cts. a cwt. Already, we are informed, the milk condensery at Chesterville, Ont., is paying \$3 a cwt., and condensery milk is more cheaply handled than city milk. From Brockville comes the report that the condensery at Cornwall, N.Y., is paying \$60 per ton for milk delivered and large quantities of Canadian milk are being shipped across the river. Contracts are also being made with dairy farmers in Eastern Ontario to supply the New York market on the basis of \$3 a cwt. The Chicago Milk Producers' Association has fixed the price of milk at \$3.42 per 100 lbs. to become effective Oct. 1st. Our latest advice, however, is that the United States attorney has seized their records and will prosecute the association under the anti-trust law. In the city of St. Louis the dealers have conceded \$3.20 a hundred pounds to the producers. New York milk prices, it is expected, will average well over \$3 a cwt. this winter.

These quotations indicate that milk producers are coping with a problem that is not limited to Canada alone. They are forced to make the demands that they are because of the ever increasing cost of production and the higher cost of living which is affecting the farmers along with every other class of the community. Even at present prices for milk, many dairymen are considering the advisability of reducing their herds. If prices were so profitable as the newspapers would have us believe, it stands to reason that, far from reducing their herds, dairy farmers would be falling over each other to increase their output, even as munitions makers and packing concerns have been doing, ever since the commencement of the war. The lesson of the situation is plain—increasing expenses considered, the prices asked are only sufficient to maintain production.

#### Cost of Milk Production.

THE MILK Committee appointed by Food Controller Hanna, is busy taking evidence, dissecting data and preparing to make recommendations as to the prices of milk at Canadian centers. This committee is composed largely of city health officials. The milk dealers have one representative on the committee and the milk producers one. Mr. Stonehouse, President of the Toronto Milk Producers' Association, is the only member of the committee whom we would consider capable of weighing intelligently the position of the producers. There are, however, many sources from which reliable information is available as to the cost of milk production, disseminated sources, too. Some recent investigations into the subject by the Michigan Agricultural College are particularly valuable because conducted by a government investigator in 25 herds that were actually producing milk for city consumption on a commercial basis. The investigator lived out among the farmers for four years and kept actual track of all production costs as well as the income. He found that on the average in all of the herds, it cost \$150.57 to feed and care for one cow in the year 1914, and \$150.29 in the year 1915. It is safe to say that this estimate should be increased by at least 20 per cent. to meet the conditions of 1917, which would make the annual cost per cow about \$350. The average production of these cows was around 7000 lbs. of milk, which at \$2.50 a cwt., which is more than producers will average for this year, would amount to \$175. The value of the manure and the calf would have to cover a loss of \$5 on the keep of the cow and provide the profits of the owner. Certainly there is nothing in this investigation to indicate that \$3 a cwt., or even more, would be an extortionate price for milk in the winter of 1917.

Mr. R. W. E. Burnaby, a member of the Toronto Milk Producers' Association, has submitted a statement to the press, showing the cost of producing milk under the conditions which prevail around Toronto. Mr. Burnaby places the depreciation on the milk cow at \$7.50 per year and the interest on the investment per cow at \$6 a year. He then summarizes other costs as follows:

Two tons hay .....	\$30.00	Grain (1 lb. for 2½ lbs. milk) at 21¢ per lb. ....	36.83
Three tons silage .....	20.00	Four months' pasture .....	10.00
and one ton roots, \$6 .....	15.00		

#### Other Charges.

Interest on half the investment in farm, divided over 15 cows .....	\$20.00	Veterinary fees .....	1.00
Labor (15¢ per day) .....	1.45	Cartage of manure .....	3.00
Stew's service .....	4.00	Insurance on animal's life .....	5.00
		Sundries .....	5.00
This brings Mr. Burnaby's total cost up to \$141.66 per cow per year.			
The average production of cows in cow testing associations he finds to be 5,985 lbs., which is considerably			

(Concluded on page 19.)

## Just try Old Dutch in the Dairy



You'll see how magically it chases away dirt, grease and scummy accumulations and how sweet and sanitary it keeps everything.





We Welcome Practical Progressive Ideas.

# FARM AND DAIRY



## & RURAL HOME

The Recognized Exponent of Dairying in Canada



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

VOL. XXXVI

TORONTO, ONT., OCTOBER 11, 1917

No 41

## The Eradication of Bovine Tuberculosis from the Dairy Herd

A Summary of the Methods followed by Fred F. Field at Dutchland Farms

AT the last annual meeting of the Holstein-Friesian Association of America Mr. Fred F. Field told the gathering just how he is eliminating tuberculosis from his herd at Brockton, Mass. A very brief summary of his address was published in scores of farm papers over America, including Farm and Dairy. The result was a tremendous demand for fuller information, and, in response to many requests, the Association has issued a pamphlet, giving a complete summary of Mr. Field's methods. Inasmuch as Mr. Field's remarks are based upon his actual experience, and his method of eradicating this dread disease is therefore soundly practicable instead of being merely theoretical, we believe that cattle breeders generally will be interested in knowing just how his plan works. Hence the contents of the pamphlet are reproduced in full in this issue of Farm and Dairy. The "Dutchland Way" is described as follows:

### First—Be Honest.

1. You must be honest with yourself. That is, take it for granted that there are some animals in your herd that have tuberculosis; that you desire to know which ones they are; that you will not sell them except as tubercular; that you want to protect your animals from the spread of the disease; that you want to raise a healthy young herd; and, finally, that you want to do everything you can to accomplish these ends. As the old saying goes, "he who fools himself is a fool."

2. The infectious disease known as tuberculosis is a subject with which both the Federal and State governments have struggled for the past period of years in their efforts to eradicate it. Very little substantial headway has been made.

3. The plan which we recommend, we have named the "Fred F. Field Method of Eradicating Tuberculosis," because it has been successfully carried out at Dutchland Farms by the Fred F. Field Holstein Company during the past three and one-half years, and is still working out successfully. Its practical working has been demonstrated. It is based on sound scientific and common sense theories.

4. First is cleanliness. Keep the cowbays swept from your stables and have them properly whitewashed as often as necessary to keep clean.

5. Get all the sunlight into your stables that is possible. It is absolutely impossible to get too much.

6. Have plenty of fresh air in your barn. You may decide the way to get the fresh air. Modern ventilating systems readily accomplish this result, but if you don't desire and cannot afford to use them, very simple means will accomplish perfect ventilation or a continuous supply of fresh air. As long as there is plenty of it and it is fresh, that is all that is necessary. Fresh

air is very essential, as it is very important that, as far as is practicable, every breath the animal takes should be new air going into her system and not foul air of any sort.

7. In other words, treat the animals as human beings are treated for tuberculosis—that is known as the "fresh air" treatment.

### Disinfecting Stables.

8. Treat the mangers, stanchions, feeding boxes and floors with disinfectant solution. There are several kinds used that are inexpensive, but the stable fittings and floors must be washed and kept clean and well saturated with germ killer as often as necessary to keep them clean, at least once a week. The modern stable fittings are more easily cleansed, but they are not necessary or essential in the work. Wood floors and fittings can be made clean and disinfected. Manure should be promptly removed from stables to eliminate any possible danger from this source.

9. Now we have our barn ready to house the cattle, let's start in to treat the cattle and their offspring.

10. Assume, if you please, that every breeding cow that you own is tubercular. Now that is solely for your own protection. The animal may

be perfectly healthy, but you are taking no chances. Later on we make recommendations about the treatment of these breeding animals.

11. As soon as the cow drops her calf, the calf should be taken away immediately, never allowing the mother to even smell of it, to say nothing about suckling it, as the calf never should be allowed to have any of its mother's raw milk. If you haven't a calf barn, this calf should be taken away so that it will not come in contact with any of the other animals, old or young, that are reactors or which you have assumed to be reactors.

### Feed on Pasteurized Milk.

12. Purchase a "pasteurizer" which has the "holding" process, which is equipped with a reliable thermometer; that is to say, it heats the milk to 145 degrees and holds it there thirty minutes.

13. Feed your calf on this pasteurized milk from the start. Feed no other. This milk should invariably be fed at blood heat or the same temperature as milk freshly drawn from the cow. The percentage of loss of calves at Dutchland Farms for the past three and one-half years has been less under this system of feeding than when we were feeding raw milk or allowing them to suckle their dams.

14. Never allow these calves, from the time they are born, to mingle with any reacting animals, or any cattle, old or young, which you have assumed to be reactors. As they get older, never allow them to drink water from the same trough or the same bucket that has been used for that purpose by the cattle assumed to be reactors. Water is a carrier of tuberculosis germs.

15. When they are old enough to turn to pasture, have a double line of fence, ten to fifteen feet apart, between your reacting animals or the assumed to be tubercular ones, so that your reacting animals and your clean ones cannot get their noses together or in any way come in contact with each other, for such practice is certain to result in infection.

16. You are now raising up a clean herd of animals, if this system has been carried out, among which you will have practically no reactors. It is possible that you might have one occasionally, but in the great number which have been tested at Dutchland Farms in the three and a half years under this system, there have been only three reactors in the young animals that were brought up under this system. Application of the tuberculin test at this period (say as yearlings) will determine the progress made in "cleaning up." Employ only a veterinarian of known integrity and skill; such a man will use only a standard preparation of tuberculin. The services of such a man cost no more than those of an ordinary one.

17. The thing of vital importance to do with



### Was It the Cow's Fault?

**S**UPPOSING that you keep a cow giving five thousand pounds of milk in a year, for which you receive seventy dollars cash, how much profit does that cow make? This is not a riddle, but simply a query that every dairymen should be in a position to answer. Leaving aside the "higher accounting" side of revenue and expenses per cow—those persistent items of rent, interest, taxes, depreciation, etc.—and taking only income from milk or fat, and cost of feed, are you then in a position to say definitely that each cow you keep does make a good clear profit above feed cost?

Whether the feed is valued at \$40 or \$50, whether the income is \$60 or \$70, is there such profit that a fair return is made to you for the labor expended? For if revenue and expense just balances, showing no margin of profit at all, there must surely be something wrong; your labor has to be paid for.

Milk and feed record forms may be had free on application to the Dairy Commissioner, Ottawa, so that the profit made by each cow may be ascertained. Perhaps some cows would show profit if fed better; some won't. Many men in all provinces on the cow testing register at Ottawa show \$30 and \$40 clear profit per cow above feed cost. You may have made more than that; if you made less, was it entirely the cow's fault?—C. F. W.

your breeding animals is to have samples taken of the sputum or secretions of the lungs and throat for the purpose of bacteriological testing. A skilled veterinarian can get these samples from the cow's throat by the use of the sputum cup. Such a skilled veterinarian will have such necessary instruments and laboratory connections as will enable him to efficiently do this work. If your local veterinarian is not experienced in this work, we will furnish the name of a competent man. The object of this sputum test is to determine whether the cow is passing off from the nose or throat the infectious tubercle bacilli which spread the disease. If the results of the sputum culture show the presence of the disease germs, it means that the animal is a "spreader."

It is well to have your breeding cows tested at least once, by a competent veterinarian, with the tuberculin test; if reactions result, it does not follow that all reactors will by any means be "spreaders." Under this method unless a reactor proves to be a "spreader," she is not at any time any source of danger, although she may at any time become so; but applying the sputum test will protect you. The use of the pasteurized milk for the calves eliminates the possibility of infection from this source; the sputum test has determined whether or not the cow is a "spreader." If a "spreader" has been found, she should be removed from the herd. If valuable for breeding purposes, she should be isolated completely. If not valuable, destroy her.

Under the Field method pasteurization differs from the ordinary understanding of the term. Under this method the milk is heated to 145 degrees Fahrenheit (a thermometer must be used) and held there for a period of thirty minutes. There must be no variation from this method. So-called pasteurizing the milk by scalding is dangerous and will certainly result in the death of the calves. No variation from the method indicated is permissible.

18. By this method you are making the milk of the animals in your breeding herd safe, that is, by the "holding" pasteurizing process, whether the animals are actually reactors or only assumed to be for the purpose of carrying out this method. Now don't get confused by the word "pasteurization" and think it means a lot of complicated machinery. It does not. It is derived from a great French scientist named PASTEUR, who discovered that some disease germs were killed by heat at a lower temperature than boiling. Boiling sterilizes. A lower temperature kills the bad germs without changing the physical character of the milk and it does not kill the good germs which are necessary to the life and health of the animal. If the purchase of a standard pasteurizer cannot be afforded, it is possible to exercise this method by the use of ordinary home utensils, but in this event, the greatest care must be exercised to keep the milk stirred continuously during the process and the thermometer constantly consulted to see that the milk is held at 145 degrees for thirty minutes. The use of a standard pasteurizer is recommended in all cases, for by the use of kitchen methods, simply, the liability of failure in properly

(Continued on page 13.)

## Ventilation Essential to Health With Details of Our Ventilating System

Jas. F. Munro, Oxford Co., Ont.

DAIRYING is our business. Like all of our neighbors, we sell a little wheat, turn off a few hogs and surplus cows, and eggs help to pay the grocery bills. It is to our cows, however, that we look for the bulk of our income. We feed them a balanced ration of roughage, grain, lots of pure water and an abundance of pure air. We stress the latter point. The cow is the most delicately organized of all domestic animals. A good cow, and we have a few good ones, works harder than any other domestic animal, not even forgetting the farm horse. This

decade, and it has given the best of satisfaction. We installed the system ourselves long after the barn was built, and at practically no expense. The labor was done at odd times, and there is enough strew lumber around any farm to construct the inlets and outlets.

Our cows stand in two rows in the stable. There are inlets every 12 feet down both sides. These inlets open to the air outside at the ground. The air is conducted up through a box 10 inches square on the inside and released into the stable. The foul air is carried away through a couple of large outlets, which run from the centre of the stable, straight to cupolas on the roof of the barn. In our own stable the cows face out and the pure air is released in front of them. Were the cows facing in, as is the case in most stables in the district, we would carry the fresh air chutes to the centre of the stable and draw the foul air away from behind the cows; just a case of putting the pure air where it is used.

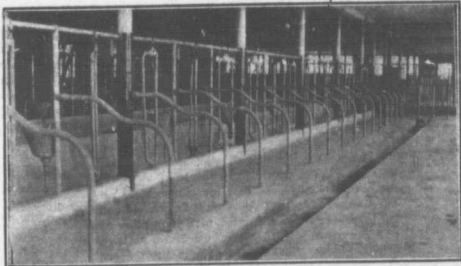
### King System Conserves Warmth.

We consider the King the ideal system for conserving warmth in the stable. When installing our ventilating system we carefully considered the relative merits of the King and Rutherford methods and decided on the former, principally on this point: heat conservation. As long as the air can be kept pure, we believe in keeping dairy cows moderately warm, and this the King system does. The air is fouled by the breath of the cows. The cows exhale great quantities of carbonic acid gas, along with moisture and warm air. At first, we are told, the tendency is for this gas to rise to the ceiling. It is, however, heavier than air, and it, too, settles to the floor and is drawn off at the door by the King system. The tendency of warm air on the other hand is to rise and it is held prisoner in the stable under this system. Of course it is important in making the inlets to have them of good length from top to bottom, so that they will act as a trap for the warm air of the stable. Where there are inlets on both sides of the stable as in our case, the windward ones can be closed on a cold windy day, and this is an important point in temperature control. For hot weather, we have trap doors at the ceiling in the foul air flues which are then kept open.

The construction of the flues is important. The intakes can be made of boards nailed tightly together. In the case of the outlet flues, however, it is advisable to have at least two plies of boards with a couple of layers of building or tar paper between and running as directly as possible to the roof. It is the draught of warm air up these flues which keeps the air circulating in the stable, drawing in fresh air as the foul air leaves. If the flues are poorly constructed, the air will cool before it reaches the roof. Circulation will be impeded and much moisture will condense and run back into the stable. The lower end of our flues, which run right to the floor between the two rows of cows, are on hinges and can be swung up out of the way when the stables are being cleaned.

As we have stated, this system has been installed for several years. Our stables are always dry, our cattle are healthy and the whole plant is a pleasant place in which to work.

### THE BARN AT THE TORONTO CIVIC FARM



The interior fittings are the last word in sanitary steel construction with lots of window glass and Rutherford system of ventilation. The siding is of rough boards, battened in the usual way, but covered with brown shingle stain. This stain, along with white trimmings, gives the barn a most attractive appearance. Although too expensive for a commercial farm, there are features in this modern barn capable of wide application.



combination of high nervous organization and hard work, explains why dairy cows are more subject to tuberculosis than are cattle of other types. We have no tuberculosis in our herd, and we are taking the best known precaution to avoid it: we are feeding lots of pure air in the ration. The fresh air treatment for humans has greatly reduced the scourge, and what is good for the human is also good for the cow. We believe that the fresh air out of doors is an important factor in explaining why dairy cows do so well on pasture.

The ventilating system in our stable is patterned on the King plan. This is the oldest and best established of all ventilating systems. We have had our King system installed now for almost a

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## Kapuskasing---A Northern Ontario Settlement

A Day with Smith Ballantyne, Superintendent, New Dominion Experimental Branch Farm

S. R. N. Hodgins, Associate Editor, Farm and Dairy.

**K**APUSKASING, 70 miles west of Cochrane, on the Transcontinental line of the Canadian Government Railway, is the site of what will one day be a prosperous farming community. Even now the ring of the axes in the forest, the r-r-rip of the stumps as they are torn from the soil, and the sound of the carpenter's hammer and saw on the new homes for settlers, bring promise of the smiling fields of grain and the happy households that will soon flourish on the banks of the Kapuskasing River.

Two things make for a rapid clearing of the woods about this settlement with the unspellable name—the preparation of the new Dominion Experimental Branch Farm and the settlement by the Ontario Government of her returned soldiers in this district. But the men who do the work of clearing for both these purposes are singularly enough aliens and enemies of our country—Germans and Austrians, 2,000 or 3,000 of whom make their headquarters in the Government detention camp, which has been established here for their benefit.

### New Experimental Farm.

A goodly start has already been made on the experimental farm. Of the 1,290 acres which make up this farm, more than half have already been cleared and 150 acres are under crop this year, including seven acres of roots. Chopping and stumping on the rest of the farm is being carried merrily along by parties sent out from the detention camp under a guard of our boys in khaki. Large barns have already been erected on the farm and live stock is being shipped in by the Dominion Government.

The experimental farm is situated on comparatively high ground on the west bank of the Kapuskasing, and consequently was wooded largely with poplars. This made the task of clearing much more difficult than is that required in clearing spruce land, for the stumps are bigger. As the main object in view is to get the farm under cultivation as speedily as possible, no time is left for the stumps to die down or be burned off as is the usual treatment on the farm of the ordinary settler. Under these conditions it is costing about \$125 an acre to prepare this land for crop, \$100 of which is recovered by the sale of pulpwood, cut during the process of clearing.

The crops which are now growing on the experimental farm are hay, fall wheat, O. A. C. No. 3 oats and roots, including turnips, sugar beets and mangels. All of these crops were looking exceptionally well at the time of my visit. The grain crops showed a heavy stand, and the oats was beginning to lodge. The country is not adapted for the growing of corn for silage, but the heavy yields of hay and oats will offset this.

### Superintendent Ballantyne Talks.

"This will be a great stock country," said Mr. Smith Ballantyne, superintendent of the experimental farm, as we walked through the oat field



A German Prisoner.

This illustration does not show Europe in the background, but the Kapuskasing clearing. The mask worn by the prisoner is not against gas, but against black flies—the bane of newly opened districts. Photo by an editor of Farm and Dairy.

to the barn, one day in July. "In 10 or 12 years this country will come to its own," he continued, "but there will be a lot of pioneering first. After we get 4,000 or 5,000 acres of land cleared in a block the climate will modify and allow of profitable farming, for we are farther south here than at Winnipeg."

Mr. Ballantyne has been in the new districts of Northern Ontario for 14 years and knows the country. He has cleared up and put into crop a farm of his own at Hearst, and from the fullness of his experience he is able to speak of prospects for settlers. While enthusiastic over the agricultural possibilities of the land of his choice, he is not blinded to the present drawbacks in the less settled communities.

"In the uncleared districts," said Mr. Ballantyne, "it is difficult for any man to come up empty handed and make a living from farming alone. Until a large enough clearing has been made to allow the sun and the air to exert their influence on the climate, ordinary grains will not mature. Fall wheat, hay and turnips are all that can be counted on to reach maturity in the unopened districts, and the long winters experienced in such districts, offset the large crops of hay and grain which may be grown." "When we can get a space cleared, however," he went on, "we will have as good a climate as the New Liskeard district now enjoys, and our winters will be two months shorter."

The district that stands foremost, in Mr. Bal-



Future Farmers for New Ontario.

A group of returned soldiers who have finished their agricultural training at the Monthey Experiment Station and are going into the Kapuskasing district to farm. Photo by an editor of Farm and Dairy.

lantyne's opinion, for immediate settlement is that cleared up by the forest fires along the line of the T. N. O. in the Matheson district. Here a large enough area has been burned over to modify the climate. "Ease of getting under cul-

tivation," says Mr. Ballantyne, "should be the first consideration in choosing a location."

### Farms for Soldiers.

For some 13 miles along the railway line at Kapuskasing, stretches a clearing varying in width from a quarter to half a mile on either side of the railway line. This land is being cleared in preparation for the returned soldiers who are anxious to get on the land. Such a strip of cleared country, added to the 700 acres already cleared on the experimental farm and the ordinary clearing about the settlement, makes this a comparatively open country, and will undoubtedly make its effect felt on the climate. As the land hereabout is gently undulating with but little swamp, and as the soil is of the finest quality, the choice of this section for the returned soldier homes seems a happy one.

The soldiers are first sent to the Soldiers' and Sailors' Training Depot, which has been established at Monthey. There on the Ontario Government's experimental farm they receive a thoroughly practical training in the farm methods which have been found suitable for Northern Ontario conditions. After receiving this training they proceed to the farm allotted them at Kapuskasing. Each farm given to the soldiers has at least 10 acres cleared, and at the time of my visit houses were being erected for the greater comfort and convenience of the families of these men. With the activity now being displayed in clearing land and building houses, Kapuskasing bids fair to show us, within a few years, the great possibilities of her agricultural lands.

## Some Observations on Alfalfa

Shall We Cultivate? More Proof Needed

Geo. F. Marsh, Grey Co., Ont.

**W**E frequently read accounts of the great benefits to be derived from cultivating alfalfa, but I notice that the men who grow the most alfalfa never cultivate it, and I doubt if it will pay. In any case I have never seen reports which proved that there was more alfalfa produced where it was cultivated than where it was not, without counting the expense of the operation.

One of the chief arguments has been that cultivation lengthens the life of the field. Here, again, I have never seen any direct proof that when alfalfa died out and grass was blamed, that

it would not have died out just as soon, or a little sooner, if the field had been cultivated. Until such time as we have some direct proof I think that it would be well for the busy farmer to go slow about cultivating his alfalfa. From my experience and observation, outside of lack of inoculation, the chief reasons for poor stands have been the heaving of the roots and burning out in the spring from the sun shining through sheets of ice. In both cases much less damage is done when there is more or less grass around the roots. Alfalfa in Short Rotations.

In this climate alfalfa is a short lived plant, though I have fields that have been down 20 years. This, however, in my opinion, is no disadvantage, as I consider that alfalfa is more valuable as a soil renovator in a

(Continued on page 10)

(The Editor's Note)

**FEEDERS CORNER**  
Conducted by E. S. Archibald.

**Feeding Cottonseed Meal**

In an article in Farm and Dairy of Aug. 1st, I note that cottonseed meal is the most concentrated feed on the market, supplying digestible protein at the cheapest rate per pound of any meal. We have never had any cottonseed in this section, but I have heard that there is danger in making it the sole concentrate for cows. I have also been told that cows fed on cottonseed produce a hard, tallowy butter, and this would be an objection, too, where we all make dairy butter. What are the facts? How much cottonseed could I afford to mix with home-grown grains for grade Shorthorn cows that are good milkers?—A. W. B. Grey Co., Ont.

There is a danger of over-feeding in cottonseed meal, but it is perfectly safe if fed at the rate of two pounds daily, divided into two feeds, and when fed with other grain and with succulent roughages, such as silage and roots. With large, heavy producing cows, cottonseed meal may be safely fed to a limit of four pounds daily. It, however, must never constitute more than one-third of the total grain ration. There are no injurious effects to the butter from these cows if fed in the above proportions. However, if fed in larger quantities, cottonseed meal causes a butter of firmer body and even a gummy consistency with a high melting point, a flat and oily taste and better keeping quality, due to the firmness. However, these characteristics vary with the amount of oil contained in the cottonseed meal. Excessive feeding of cottonseed is unsafe, and at present prices unprofitable. This meal, however, may be advantageously used in winter feeding as a cheap source of protein, and in summer feeding on the pasture, to partly counterbalance the excessive laxing

quality of grass and to induce a firmer butter. A good grain ration with home-grown grains depends on the character and quality of these grains. I would suggest a grain ration composed of ground oats, four parts, ground barley four parts, ground peas one part and cottonseed meal two parts, or equal parts of ground oats, barley, wheat and cottonseed meal.—E. S. A.

**Brewers' Grains or Oats**

I HAVE read Mr. Archibald's article on feeding with interest. Dried brewers' grains stand high on the list. I find that I can purchase these grains at \$3.25 laid down here. Probably we will be able to sell our home-grown oats at 50 cents a bushel, or about \$31 a ton. I have read somewhere that oats are 10 per cent more valuable than brewers' grains for dairy cows. Can I afford to sell oats and buy brewers' grains? Would they make a good mixture and in what proportions? Would a little cottonseed meal be needed to raise protein content?—B. L., Peel County, Ont.

From many feeding experiments the following deductions have been made. Dried distillers' grains of average quality are at least 10 per cent better than the average dried brewers' grains for the production of milk. Dried distillers' grains have proven better than a mixture of equal parts of cottonseed and ground corn. Dried brewers' grains are slightly superior to wheat bran when mixed with other meals in a good milk cow ration.

Based on the digestible protein contained and the total digestible nutrients, dried distillers' grains at \$38.25 per ton is the cheapest feed on the market. Unless the cost of haulage and handling is too great, it would pay to sell some oats at \$31 per ton and in its place buy dried distillers' grains at the above figure. It would not, however, pay to sell oats and buy bran at present prices, namely, \$36 per ton, for good quality ground oats are worth about 10 per

cent more for milk production than average wheat bran. Cottonseed meal is not absolutely necessary to raise the protein content of the ration, as the best grade quoted in Canada at present contains only 36 per cent protein, which is little higher than the best grade of dried distillers' grains. A small amount of cottonseed might be advisable for the sake of variety. Based on the above valuation of oats, namely, \$31 per ton, two very good dairy cow rations are as follows: Ground oats, two parts; dried distillers' grains, two parts; cottonseed meal, one part; linseed meal, one part; (2) ground oats, four parts; dried distillers' grains, three parts, and cottonseed meal, one part.—E. S. A.

**Fighting the Flies**

EDITOR, Farm and Dairy.—This year we have been fighting flies a little more consistently than usual. We are certain that we can see results in the milk yield. Night and morning, ever since the first of the fly season, we have been spraying the cows with one of the commercial mixtures. Altogether we have used just two gallons of the spray at \$1 a gallon, on our eight cows. It has cost us about a half a cent a cow per day. Consider the returns from this investment.

Comfort in milking is the one that appeals most directly. A kicky, switchy, fly covered cow is always a difficult subject to handle. Our cows this summer have never kicked and never switched. There were no flies on them and they had nothing to kick and switch for. Milking is now a pleasant occupation and there is no strain on their temper.

We are getting more milk. The cows spend their time in the pastures

eating and not in fighting flies. One of our neighbors down the concession pastures his cows on the road. The contrast between the neighbors cows outside the fence and our cow's inside the fence is always noticeable. Our cows are always feeding quietly, while his spend at least half of their time fighting flies. It stands to reason that our cows must milk better. Applying the fly mixture with a hand sprayer, takes practically no time. Two minutes suffices to cover the whole bunch.—E. T. F., Halton Co., Ont.

**The Self-Sustaining Farm.**

THE dairy farm can be made self sustaining," says Mr. Henry Glendinning, Ontario Co., Ont. "The dairy farmer can grow everything he needs. Whether or not he does so, is altogether a question of profit and loss. For instance, we are not feeding any of our grain. The oats that might have been fed to the cattle have been sold at a big price for seed.

"Where there is lots of alfalfa hay the dairy farmer is in good shape for protein feeds. Since we started to grow alfalfa we have not fed much grain at any time, the most of it being fed to hogs. When we do buy grain we get it early. Last fall we bought our bran at \$28 a ton and shorts at \$30.

"When the cows are nearly dry they do not get any grain at all. Cows giving 20 to 30 lbs. of milk a day, Jerseys, get two gallons of bran and two pounds of cottonseed meal. When giving 30 lbs. a day they don't get a great deal more. Of course they get all the alfalfa and corn silage they want.

"Our farm is self sustaining in the sense that we grow cash crops to pay for the concentrates we purchase."

**SYDNEY BASIC SLAG**

**Pay Attention To This Warning**

The General Freight Agent of the Canadian Government Railways, Moncton, N. B., writes under date 15th June, 1917, as follows:

"I wish to remind you that there are no very good prospects of any marked change in conditions next winter and spring. The same cause which prevented us from furnishing cars in sufficient quantities when required and giving the necessary guarantee of despatch, will doubtless be encountered again this coming winter, and the railways of this country will continue to be heavily taxed to handle men and supplies. It seems to me that in your own interests as well as that of agriculturists the situation should be faced and an effort made to get the bulk of your shipments off before the close of 1917. It is up to the farmers of the country to help out by taking delivery so far as possible of their fertilizers as these are obtainable and as cars are procurable, and not to expect the railways to drop everything else in an effort to get fertilizers carried at a season of the year when conditions of transportation are at their worst."

Ontario farmers will remember that we were unable to deliver Basic Slag last Spring for want of transportation and that all our orders had to be cancelled. We respectfully ask them, therefore, to help out by placing their orders for their Spring requirements with our agents right away and taking delivery as the goods arrive in November and December.

**THE CROSS FERTILIZER CO., Ltd., Sydney, Nova Scotia**

**SYDNEY BASIC SLAG**

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# En-ar-co Products

- En-ar-co National Motor Oil
- En-ar-co White Rose Gasoline
- En-ar-co National Light Oil
- En-ar-co Black Beauty Axle Grease

## Give the Farm the Profitable Efficiency of a Modern Factory

The farm of today has the importance equal to that of great factories. And in serving the nation's needs, both produce a profit in ratio to the efficiency of each separate unit.

Machinery represents a heavy investment. Its continued operation requires additional money. If either farm or factory is to be successful, this invested capital must produce dividends.

Reduced operation costs, lower depreciation and increased output are the things that count big when profits are figured.

There is where En-ar-co Products meet the most exacting farm requirements—*your* individual needs.

## What En-ar-co Products Will Do for You

They give your machines longer life and greater operating power. That means less expense and greater income. It means profits!

### En-ar-co National Motor Oil



Proved highest quality by long years of practical tests and use under varied conditions. Lubricates perfectly with least carbonization. Will give perfect satisfaction in any make of tractor, automobile, motorcycle or gas engine. Try it.



### En-ar-co White Rose Gasoline



A pure, dry, homogeneous gasoline that produces the power you have a right to expect. Always uniform in quality. Insures continuous power—a silent, flexible power that means more mileage per dollar for auto or tractor—more productive energy for gas engines.



### En-ar-co National Light Oil



It gives your home a cheerful, clear light. No odor, charred wick or black chimney. It produces a steady, even heat for oil heaters and cook stoves. It maintains uniform heat in incubators and brooders, insuring the hatching of every fertile egg and nature-heat for the chick. National Light Oil is the most economical fuel for kerosene powered tractors.



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and inclose two 2-cent  
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- 1 pint.....gals. motor oil per year.
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- 1 pint.....cents grease per year.
- 1 pint.....gals. kerosene per year.
- 1 pint.....gals. tractor oil per year.

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MAIN OFFICES: Winnipeg, Man.—Regina, Sask.—Calgary, Alta.—Niagara, N.C.

**Tear or Cut Out—Mail Today**



## “ Let Me Help You Carry the Burden, Mother ”

“If Canada Fails us in October, We Must Curtail Many of our Activities.”

Sir ARTHUR STANLEY, Chairman, Executive Committee, British Red Cross.

It now costs \$300,000.00 a week to carry on the work of the British Red Cross, or \$16,000,000.00 a year.

Every minute of the day and night it costs \$30 to minister to the sick and wounded and dying.

Last year Ontario's magnificent contribution paid for the entire work of the British Red Cross for nearly six weeks.

This year, in view of the greater need, it is earnestly and confidently hoped that Ontario's contributions will be as great proportionately as the magnificent offering of last year.

Our trust is, that the Citizens of Ontario will give generously to this noble cause on—

## “ OUR DAY ”, OCTOBER 18th

### A Few Facts about British Red Cross Work

The British Red Cross Society is the only institution which carries voluntary aid to the Sick and Wounded of the British forces on land and sea in every region of the War.

Its work is therefore the concern of all classes of British subjects, whether living in the British Isles, in the Dominions and Colonies beyond the seas, or in foreign countries.

### IN GREAT BRITAIN

57,000 Hospital Beds found in the United Kingdom.

30,000 of these provided with Nursing Staff.

2,000 Trained Nurses working at home and abroad.

7,500 V. A. D.'s helping in Army Hospitals.

—\$220,000 spent on equipment of King George Hospital (1,850 beds) and

\$130,000 a year contributed to cost of its maintenance.

\$225,000 spent on building and equipping Netley Red Cross Hospital (1,000 beds); and

\$625,000 spent on maintenance.

\$175,000 for Orthopaedic Curative Workshops and Training Fund.

\$185,000 for Facial Injury Hospitals.

Organization of Resources Committee, Parliament Buildings, Toronto.



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Sources of Protein

**P**ROTEIN is the most expensive ingredient in Biddy's ration, with beef scrap and sour milk as its usual sources. The expense of the first and the frequent difficulty of securing the second inspired the Miscellaneous Agricultural College to do some experimenting to see if protein could not be supplied more cheaply through certain meals which have a high protein content, such as cottonseed, oil cake and gluten meal. Different pens of the same breeding were fed on these meals in comparison with other pens receiving beef scrap or sour milk. The following table shows the cost of feeding one hen per year in each of these pens, the number of eggs laid and the net profits.

Lotion	Feed Cost	Eggs	Profit
Beef scrap	Per Hen		
Sour milk	\$1.078	120.3	\$0.515
Oil meal	0.928	129	1.02
Gluten meal	0.36	64.9	0.12
Cottonseed meal	0.90	62.8	0.06
Cottonseed meal	0.958	62.8	0.14
No basal protein	1.00	57.3	-2.045

So far as could be observed the hens were in perfect health throughout the entire experiment in all of the pens. It will be noted, however, that reasonable profits were secured only with beef scrap and sour milk. According to these tests, 100 pounds of sour milk is worth 5.4 pounds of beef scrap.

A Wheatless Ration

"CAN I feed chickens without wheat?" I asked Prof. W. R. Graham at Guelph early in the spring when wheat was nearing \$3 a bushel.

"Yes," answered Prof. Graham, "but you must start the pullets on the ration that you intend to feed them and stay right with it. When wheat went up last fall, we shied at it and bought a scratch feed, a mixture of wheat, cracked corn and buckwheat. It was a better mixture than wheat alone and the hens should have increased their laying if the menu of the feeds were considered, but instead they were off for a month. This was the pullets that had started to lay. We had another bunch that was just ready to start laying when we changed the feed. Not having become accustomed to a wheat laying ration, they started laying in great style on the scratch mixture."

"But will they lay just as well without wheat?" I persisted.

"Just as well," Prof. Graham assured me. "Feed cracked corn in the scratch and have rolled oats before them in the hopper."

"Why not whole corn?" I queried.

"Not enough scratch in it," was the sufficient reply.—F. E. E.

The Molting Period

By Michael K. Boyer.

**T**HE molting period covers a space of about 100 days; that is, from the original start to the final growth of the new feathers, and the laying of eggs, will take that length of time. Sometimes hens complete the process and get back to laying in a shorter period, but such cases are more of an exception than the rule.

This molting is more or less a drain upon the system, and it is important that the hen be kept comfortable and plentifully supplied with good food and pure water. If there is any constitutional weakness in a hen, she is

pretty sure to develop it while undergoing this change of her coat.

The older the hen the later will be the commencement of the molt, and, consequently, the later will be the resumption of laying. A hen that does not shed her feathers until November or December, certainly cannot be of value as a winter layer.

In the diet of molting fowls there should be occasional feeds of sunflower seed, and about five per cent. linseed meal should be daily added to the morning meal. The food must be nutritious; green food is important; and the bill of fare should contain a variety.

When a hen receives a large supply of carbohydrate food she converts her fat without furnishing the necessary elements required for the new growth of feathers. In consequence, there is a general wasting away, inactivity of the bird, and death.

A hen that is too fat, has not the power to renew its coat, while on the other hand, one that is too poor is unable to shed her feathers. It is therefore important that either extreme be avoided. The life and vitality of the feather is lost when the ducts which nourish it have performed their work. Excessive laying, sickness, or starvation brings about this exhaustion prematurely.

HORTICULTURE

Embargo on Apples Remains

**E**FFORTS to have the British embargo on Canadian apples lifted, have been unsuccessful. The following message, which has been received by our Food Controller, holds out little hope for anything being done in this line for some time to come: "I have been carefully conferring with various authorities concerned in this matter, including Sir George Perley. I need hardly say I have the greatest sympathy with your desire to alleviate the position of Canadian fruit growers but under existing circumstances I am afraid there is no prospect of my being able to obtain relaxation of the existing prohibition. Our purchases, as you know, are limited by lack of tonnage, and unless there are material improvements in this respect the whole of our resources will be required to maintain the supply of essential foodstuffs, such as wheat, bacon and cheese."

Apple growers in Ontario will find little difficulty in marketing their fruit this year if they have the fruit, for as a general rule, the apples throughout the province, may be classed as a failure. Nova Scotia, however, has a good average crop and will have about 450,000 bush, for which she usually finds a market in Great Britain, to displace of in Quebec, Ontario and the Western provinces. Plans are being made whereby these apples will be as widely distributed as possible throughout Canada's markets, under the direction of the Food Controller.

Harvesting the Potato Crop

**P**OTATO patches could have been seen this year in many places where "spuds" have never made their appearance before. The scarcity of this vegetable last spring, led many farmers as well as market gardeners, and even city folk, to plant an extra acreage of potatoes. The problem that will soon face these potato growers is that of harvesting and storing the crop. Potatoes should not be harvested so long as they are growing. While immature potatoes make the best seed, those required for eating purposes should be allowed to ripen. Once the potatoes mature, however, no time should be lost in the harvesting,

Proper Feeding Pays

Yes—and handsomely, too. Here's what Mr. H. W. Corbett of Annapolis, N.S., has to say about it: "I had a flock of Plymouth Rock pullets. I put five in a separate house and gave them

Pratts POULTRY REGULATOR

In February the five pullets produced 116 eggs, or 23 to 24 each. The other 30, without having Pratts, produced only 15 to 16 eggs each. I then fed the 30 Pratts' Poultry Regulator, and in 10 days my hens increased 50 per cent. in laying."

Could you ask for better proof than this? Order Pratts to-day from your dealer. He has it in popular-priced pkgs., also in twenty-saving 25-lb. pallets and 100-lb. bags.

Money Back if not Satisfied

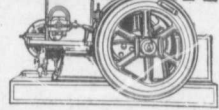
Pratts' Poultry Disinfectant

Is a most economical and effective lice and mite killer and germicide for spraying roosts, nests and poultry houses. 1 gal., 1/2 gal. and 1 qt. cans at your dealer's. Write for Pratts new book, "Poultry Wrinkles," it's FREE.

PRATT FOOD CO. OF CAN., Ltd. 65M Clarence St., Toronto. P-4



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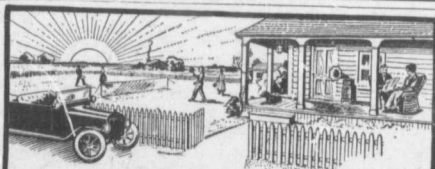


A Page Engine (Gasoline or Kerosene type) saves time and money on the farm. We have reached the very apex of value, in the producing of engines that are low in price and that furnish the greatest power with least fuel.

Then there's the matter of convenience—these engines are easy to understand and manage. The Gas engine made in five sizes—1 1/2 h.p., 1 3/4 h.p., 3 h.p., 5 h.p., 7 h.p. The three larger sizes burn either kerosene or gasoline. The Page costs less to own and less to run than any other farm engine on the market. This is particularly true of our new Kerosene Oil Engine, which has many new and distinctive features that we'll explain if you'll just sign your name to a post card and send it to us.

THE PAGE WIRE FENCE COMPANY

WALKERVILLE, ONTARIO.



FORTUNATE FARMERS

of to-day need not envy the conveniences of City Life.—Motor Cars, Gramophones, Player-Pianos, Moving Pictures, Gas and Electric Power, or lighting the farm by the City Light. Some or all of them are to be found in the more settled farming districts, and are rapidly finding their way to the fringes of Western Settlement.

Do not add to the overdone competition of City Labor. If you want to find out where and how to get a free home-land in Western Canada ask for our publications, "Home-seekers and Settlers Guide," "Peace River Guide," or "British Columbia Settlers Guide."

For further particulars and any of our descriptive booklets apply to nearest Agent or write to General Passenger Dept., Montreal, Que., Toronto, Ont., Winnipeg, Man.

CANADIAN NORTHERN RAILWAY

for digging potatoes is a very disagreeable job when the nasty fall weather sets in.

Where late blight has made its appearance in the field, it is the practice of good potato growers to delay harvesting as long as possible, so that many of the potatoes affected will rot in the fields rather than in storage. The sound potatoes are then picked, placed in a pit, or on the barn floor for some time until one is sure that the disease is not progressing to any extent. As soon as the cool weather sets in, these may be placed in permanent pits or in the cellar.

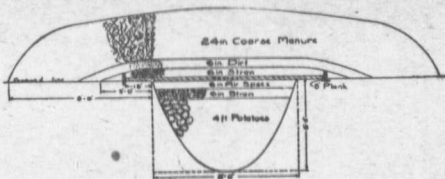
The best storage for potatoes is provided in a dry, dark, cool cellar. A temperature of about 55 degrees is the one which will keep potatoes in the best condition. If a false floor of slats is laid over the earthen cellar floor, so that the air can circulate through the potato pile, much rot will

be avoided. With the larger acreage, however, planted to potatoes this year, many farmers will find themselves with more potatoes than can be accommodated in their cellar. If these are not required until next spring, they may be pitted in the field. It is perhaps the best plan not to put too many potatoes in one pit. The potatoes can be covered with eight or 10 inches of straw to allow some ventilation in the pit, and the whole covered with sufficient soil to keep out frost.

#### Pit for Storing Roots

THE dotted line represents the outline of the pit for clay soil stiff enough to hold its shape, and the solid line or oval bottom represents a practical shape for sandy soil that will not stand. The shape of the side in the pit for light soil will depend upon the amount of sand in

the soil. The pit is five feet deep and eight feet wide at surface of ground. This width makes it practical for digging with a team and scraper. If potatoes are pitted early, or if not dry when pitted, it will be best to make the pit 6½ feet or 7 feet wide at top in place of 8 feet. In



Note: For every foot in length the pit holds 16.5 bushels bottom layers 55.6'

digging the pit with a team the two ends can be finished or squared up with a shovel. The capacity of the pit is shown, and the farmer can make the pit the proper length to care for his needs.

It is a good plan to place a few inches of straw or coarse hay in the bottom of the pit to lay the potatoes on. The covering is important and the pit should not be covered until cool weather starts. If potatoes can be cooled down before covering for winter there is much less danger of loss. The method of covering is shown in cut. Some people place ventilators in pits of this kind, but there is always danger, as it is not possible to tell the temperature at any given time in the pit, and danger from frost coming down the ventilator is great.

#### Fruit Crop Report

THE weather throughout Eastern Canada has been cool, thus retarding the ripening of all fruits. Peaches, grapes and pears, throughout the Niagara district, have been 10 days to two weeks later than usual in maturing. Peaches, however, are now coming into the market in large quantities.

The Ontario apple crop is not more than 20 per cent normal and much of this will grade low because of scab. The Nova Scotia crop, however, while probably not up to the earlier estimates of 750,000 barrels, will be a large one and the fruit is reported as clean and highly colored. It was feared earlier in the season that difficulty would be experienced in selling the apple crops of Nova Scotia and British Columbia at prices which would be profitable to the growers, but within the last four weeks prices for apples have advanced 25 to 75 per cent, and a ready sale will likely be found for all the fruit available.

Plums in the Georgian Bay district are turning out from 65 to 70 per cent normal and heavy shipments have been made. The crop throughout the Niagara district is medium. Quebec, New Brunswick and Nova Scotia have practically no plums this year. Pears seem to be light throughout Canada. The grape crop is now coming on the market. As they are about two weeks later than usual, unless warm weather is obtained late varieties will not likely ripen properly.

#### Some Observations on Alfalfa

(Continued from page 5.)

comparatively short rotation, say from three to five years, than in a longer rotation.

But some will say that it will not pay to put so much expense on a crop for so short a time. If alfalfa will not grow without pampering it, leave it alone. It is very seldom that where a large expenditure has been put on land, the farmer has had his money returned to him. One reason for failure with alfalfa is lack of inoculation, as I think it takes several years to get a field thoroughly inoculated. I would venture the opinion that the farmers in the vicinity of your correspondent, who had six unsuccessful years and fourteen successful ones fol-

## For Moose, Bear or Deer

it makes no difference which—

## Dominion Ammunition

is the surest.

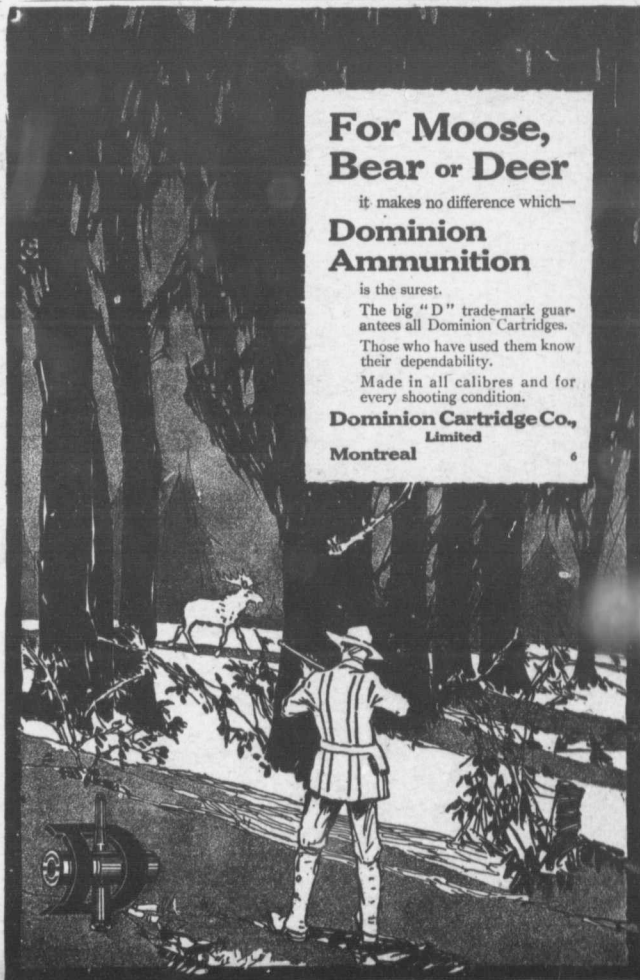
The big "D" trade-mark guarantees all Dominion Cartridges.

Those who have used them know their dependability.

Made in all calibres and for every shooting condition.

**Dominion Cartridge Co., Limited**  
Montreal

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## The Dwindling Dollar

Down, down, down, day by day goes the purchasing value of the dollar.

These are the days of the high cost of living; money is "cheaper" than it ever was before, so that it takes more of it to buy the necessities of life.

Where formerly a man protected his family with an insurance of \$2000, to-day it would take almost \$4000 to assure them the same comforts.

Some think that after the war money will become "dearer" again, so that it will be possible to buy as much with a dollar as we could before the war.

The best opinion is that the present high prices will continue for a very long period; in other words, that the "good old times" will not come back.

As far as life insurance is concerned this means one thing and one only—increased protection. We must, if possible, double the amount of our life policies.

Owing to his ever-increasing property the Mutual Life of Canada, though conservatively managed, offers policy features that afford the most generous protection. We would like to explain the Mutual's total disability clause. Write for booklet entitled, "Ideal Policies," which gives full particulars of this advantageous option available to Mutual policyholders.

Premiums have not gone up with—

**The Mutual Life Assurance Company of Canada**  
Waterloo-Ontario

lowing, can now grow alfalfa without any trouble, on any land that is reasonably adapted to it. I could name dozens of districts where alfalfa was sown with unsatisfactory results, but a few persisted and now all the farmers grow it as a staple crop, without any extra preparation. My only explanation is that during the year of partial success the wind was blowing the dust from the alfalfa field and birds, dogs and other animals were carrying the inoculating bacteria all over the district.

How can one grow alfalfa without expense, you might ask? Simply mix from five to eight pounds of alfalfa seed to the acre, either inoculated with culture or moistened, and some fine dust from an alfalfa field sprinkled over it. With your regular seeding down mixture, sow either with grain or alone in whatever manner your experience shows is the most satisfactory method. In this way you are sure of a crop of hay and no risk of losing your time and money, though bare spots are in the field, and nine times out of ten, you will have a good mixture of alfalfa in the first cutting, while the second should be pure alfalfa.

If, by the time you have gone over your whole farm in this way, you are not satisfied that alfalfa is a profitable crop for you to grow, let some one else grow it for you, but much expense into growing alfalfa at first.


### Uniting Weak Colonies

One of the prime essentials in the successful wintering of bees is that the colonies go into winter quarters strong in numbers. Every apiary usually has a few weak colonies. These may have dwindled through having no queen, or they may have been small, late swarms. In every case where such colonies are to be wintered over, two or more should be united, so that the resulting colony may have enough bees to cover six or more frames when winter commences.

In uniting, it must be remembered that the bees know the exact location of their hives. If two colonies were united during the active season, many would get lost if the hive were removed from the old stand. If the bees are still flying, the hives should be gradually moved close together, moving them a couple of feet each day.

Where the bees have plenty of stores, or where they can be supplied with full frames for winter, uniting is a comparatively simple matter. Late in the fall, when the bees are confined to the hives for a number of days at a time on account of the cold, take a sheet of newspaper and place it over the top of the stronger hive. Remove the bottom board from the other hive and set it on top of the paper. By making a few small holes in the paper, the bees will find their way, one at a time, into the lower chamber and no fighting will ensue. After this has been accomplished, place all the frames containing brood in the lower chamber; the upper chamber may now be removed.

Queens are often introduced by the mailing cage method, directed to which appear on each cage. Others introduce them by daubing the queen in half a tumbler of honey and then placing her in the hive and pouring in the honey, the idea being that by the time the bees have cleaned off the queen she will have acquired the odor of the colony. This has the drawback that it is liable to injure the queen by clogging her spiracles with honey. A better method is that of sprinkling. Thin syrup, made half and half, is sprinkled both over the bees and the queen. All find themselves in the same trouble, and by the time they have cleaned off the syrup they will have accepted the queen. S. R. H. H.



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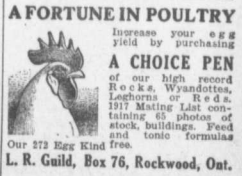
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### The Rural Publishing Company, Ltd.

PETERBORO AND TORONTO

"Read not to contradict and to censure, nor to believe and take for granted, but to weigh and consider."—Bacon.

### Farmers Prefer Joint Stock Company

It will be remembered that last spring the United Farmers of Ontario protested against certain provisions in the proposed amendments to the Cooperative Societies Act that the Government had introduced in the Legislature, on the ground that their effect would be to restrict unduly the actions of shareholders and directors of cooperative organizations. The Government conceded some of the points asked for by the farmers, but in the main passed the amendments without important changes.

The amendments made in the Act, as the organized farmers contended would be the case, are likely to discourage the formation of cooperative organizations in Ontario. An indication of this is found in the fact that when the farmers in the vicinity of Port Perry, in Ontario County, recently decided to organize and purchase the business interests of the Carnegie Milling Company, which conducted a flour and grist mill, saw mill, and other similar interests at that point, although the farmers desired to organize on a cooperative basis, they decided, after looking into the Act, that they would serve their interests best by forming instead under the Joint Stock Companies Act, and a charter was applied for accordingly. Most business enterprises in cities are conducted under the Joint Stock Companies Act, which is free from the objectionable restrictions that are imposed on cooperative organizations when formed under the Cooperative Societies Act. It appears from this that the cause of cooperation among farmers in Ontario, which the Government expressed its desire to promote, is likely to be

discouraged rather than helped by the amendments to the Act passed by the Government. Thus the United Farmers of Ontario are being justified in the stand they took last spring in connection with the adoption of these amendments by the Government.

### Feed Roughage

FEED prices this winter will dictate a complete change in feeding methods on many dairy farms. For several years previous to 1916, hay had been a short to a moderate crop, and prices were high. In several of these years, concentrates, by comparison, were cheap, and even coarse grains were more economical than hay when both had to be purchased. Under these conditions, many dairy farmers began to economize in hay, fed straw along with the ensilage, and bought heavily of concentrates.

This year hay is abundant and cheap, while grain feeds are abnormally high. Whether viewed from the standpoint of total digestible nutrient or protein content, clover and alfalfa hay are by far the cheapest feeds on the market. It will be advisable, therefore, to feed as much good clover hay this winter as the cows will consume. To increase the consumption of high quality roughage, it may be advisable to eliminate straw entirely from the ration. It would be a mistake, however, to reduce the grain allowance to too small proportions, and heavy milking cows should be fed liberally. It will be profitable, however, to reduce the grain so far as possible by feeding more hay. This involves a radical change from the methods followed by many dairymen in the past, but it is a change that is dictated by necessity.

### The Agricultural Survey

LAST year we have definite information that a farm management survey is to be undertaken in Ontario, Mr. A. Leitch, lecturer in farm management at the Ontario Agricultural College, will be the man in charge. Actual field operations were commenced on October first in Caledon township, Peel county, a township which is considered typical of the general mixed farming sections of the province. From one hundred and fifty to two hundred farmers will be visited and a survey of their farm business for the previous twelve months will be taken. The information asked for will include such details as the acreage farmed, crops, yields, receipts, expenses and an inventory of all farm equipment and real estate.

This survey will more than justify the expense involved, in that it will help to clear up many misunderstandings as to the farmers' position. The city public, for instance, seems to have become firmly convinced that farmers are becoming wealthy at the expense of city people, and that farming to-day is almost a get-rich-quick proposition; a viewpoint, by the way, which is not limited to city people, but seems to be shared by a few arm-chair farmers in the Provincial Department of Agriculture. The facts that will be disclosed by a well conducted agricultural survey, will lay bare the cause of rural depopulation and the source of the discontent which is so frequently voiced nowadays at farmers' meetings. Incidentally the results of the survey will lend some additional light on the problems of farm management. While this latter is the primary cause for undertaking the survey, it will probably be the least of its benefits.

### A Chance of Error

IN some ways this is the worst possible time to undertake such a survey as the Ontario Department of Agriculture is now conducting. Conditions are not normal and conclusions reached from data collected may be, to a considerable

extent, misleading. Consider the situation. Taken all in all, Ontario has this year the best crops in its history. Because of war conditions and world-wide demand for food, prices are good, a combination of circumstances that seldom exists in normal years. It has been the usual experience of the Ontario farmer that big crops were associated with low prices and small crops with higher prices. Even under the conditions which apply this year, however, there is little likelihood of the survey revealing any exorbitant returns going to the farmer; in fact, the farmer who realizes as much on his investment as does the average investor in industrial stocks, will be a rarity. Returns on the average farm, however, will probably be more satisfactory than ever before and the normal situation will not be gauged by the survey. Nor will city readers understand that the seeming profits of this year were wiped out by the losses of last year when crops, with the exception of hay, were a failure. To give a correct index of the farmer's financial position, a farm survey should cover a period of several years and that under normal conditions.

From the farm management standpoint, the time is not propitious for a survey. Systems which were most profitable under pre-war conditions are at a disadvantage now. Many Ontario farmers, for instance, found that previous to the war, grain could be bought as cheaply as it could be grown, while roughage could not be bought as cheaply as it was grown. They adjusted their system of management accordingly. Now the reverse is true. Grain is high in price and roughage is cheap. Points such as these, which will affect the results of the survey, should be emphasized in the publication of results. Even with these disadvantages, however, the move is a good one. The Department deserves commendation for instituting it, and, if properly conducted, Farm and Dairy would suggest that the survey be continued next year in the same district and include so far as possible the same farms. The longer the survey is conducted the more valuable will be the data obtained.

### The Seed Corn Situation

A SHORTAGE of good home-grown seed corn for next spring's planting now seems probable. In Farm and Dairy last week P. L. Fancher, the corn specialist in connection with the Ontario Department of Agriculture, states that the corn crop is late in south-western Ontario, that good corn will be scarce in any case, and, on account of the high cost of feed, much corn that might otherwise be saved for seed will be fed to live stock.

The late, wet spring is responsible for this scarcity of good seed in Ontario's corn belt. Fortunately the United States' corn belt has had an extra good crop this season and good seed corn will be available from there. Even with imported seed on the market, however, a good price is assured for the Canadian corn growers, who will have a surplus of seed for sale next spring. Farmers so fortunately situated as to have a properly matured crop, should plan to specialize on seed corn and give their select ears the best of attention this fall and winter.

Most of us learn our best lessons in the school of experience. The tuition fee comes high, but it is our own fault if we have to pay it twice.

It has been suggested that the 3,000-lb. cows of which we once heard so much are decreasing, because of the decrease in numbers of cow keepers of the same calibre.

The old interests are again bestirring themselves, probably through organizations of consumers, who have little understanding of the real situation. Producers, on the other hand, are seldom heard from. We should be ready to guard our interests.

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**Letters to the Editor**

**Letting the Light In**

**EDITOR, Farm and Dairy:**—The War Production Club of Toronto complains in The Globe, that we import oats for Toronto while we have splendid oat producing lands in Ontario; that York county alone produced 3,000,000 bushels of oats, Toronto imported 2,500,000 bushels; that all but five per cent. of our potato supply was also imported while in 1914, 90 per cent. of our requirements were home grown and that while 1916 was not an ideal year for potatoes, yet 26,000 acres less were planted. "We also," says the same writer, "import immense quantities of beans from Japan and China, although Canadian beans are much better."

All this is to show the inefficiency of the farmers from a city viewpoint. Without qualifying knowledge these statements are very misleading. Oats were practically a failure in Ontario in 1916. Thousands of farmers were buying oats. Does not the writer know that even if York county farmers srew an equal amount to what Toronto required, that they needed their supply for themselves? Does this economist expect the Holstein cow to turn water into milk, without oats, or hogs and bullocks to grow and fatten on wind? Does he not know that Ontario farmers derive their chief income from animals, and animal products, and therefore will always be buyers of feed stuffs?

Does he not also know that in 1914 potatoes were so cheap and unprofitable to growers in Ontario that they did not plant the usual acreage in 1916? Add to this the utter destruction of most of what was planted by wet weather followed by drought and you have the result—five per cent. of what was wanted available.

You have here also an example of the farmer's risk and loss through no fault of his. Thousands of farmers bought their potatoes at \$4 per bag in spring of 1917. The bean problem is also a simple one. The bean growers in the countries quoted by this writer, China and Japan, exist on a pittance while bean growers in Canada want to live as nearly like the City people as possible; therefore, they find it unprofitable to compete in growing beans, and grow something else more profitable. If this agricultural adviser wants "Made in Canada" beans he should induce the Government to raise the duty on beans as high as Haman's Gallows. That is what the manufacturers do.—J. J. Morrison, Sect'y U. F. O.

**Cooperation**

**EDITOR, Farm and Dairy:**—Cooperation is a mighty word to conjure with. It keeps the farmers quiet, supplies jobs for agricultural experts, cuts the profits of the small middleman, but best of all does not interfere with the profits of the Knights of the Order of Profiters in the bacon, meat packing and allied lines of farm produce.

In the hands of a good live talker, the boasts of cooperation are held up in such a way that the farmer realizes his shortcomings to so great an extent that he is not so apt to ask embarrassing questions regarding the management of the Department of Agriculture in sending out men to talk cooperation and with a few notable exceptions, the recent wool sales at Guelph, for example, in neglecting their share of the cooperative effort in seeing that the farmer gets a fair price for his stock after the cooperators ship it.

The only logical method for the

Government is to take some course whereby it can regulate the shipments to the different markets and thus beef markets will be stable and, in the case of live stock, some regulation should be enforced to prevent combination of manipulation of markets. That something more than market reports is needed was shown by the peach industry in the United States. There the government got out telegraphic reports of the condition of different markets, with the result that growers as well as small dealers shipped their peaches and also changed destination of cars that were rolling, with the result that markets which were bare one day would be glutted the next. One large grower told me that conditions were worse than if they had no reports.

Cooperation kills the small dealer, but as it is popular at present to be a perfectly safe thing to do. But the local dealer has had his place in agricultural economy, and until the Department of Agriculture will exert its rightful control, he will still have his place. One of his chief uses is to act as a means of insurance. While he charges somewhat high, so do all insurance companies. The local dealer pays a price on which he will make on a good market, but lose on a bad market; but as he is shipping every day or every week, he will not lose often, and counts on making on the whole. On the other hand, if the farmer ships, say live stock, cooperatively and strikes a bad market, he may lose a whole season's work by the manipulation of a few on the inside. By selling to a local dealer he would not make as much as selling on a good market, but he would not lose heavily or more than the individual farmer can afford.

Here is the work for the Department of Agriculture. Give us stability of markets and the farmer will produce the live stock and farm crops. Cooperation has not as yet interfered with the profits of the manipulators. In fact, it has helped them. It used to be one of the stock arguments of the speakers on cooperation that the large buyers would rather buy from a cooperative concern, as it decreases their expense in assembling and therefore gives them more profit.—G. F. Marsh, Grey Co., Ont.

**The Eradication of Bovine Tuberculosis**

(Continued from page 4.)

pasteurizing the milk is too dangerous a risk to be assumed except by the most careful people.

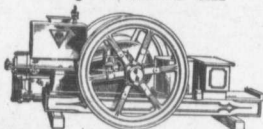
19. Now by carrying out this method, in a few years you will come to realize that you have turned what looked like a serious loss to you into a profit. In other words you have grown up a new, healthy herd, while at the same time you have preserved your tubercular breeding herd without any material loss, which herd can be maintained until age and condition indicate the time for their disposal.

20. Calves' navels should be kept disinfected until they are practically dried up. Calves' feeding pails and buckets should be kept clean and scalded. Have plenty of sunlight and fresh air where the calves are kept. Calves' bedding should be dried and not left wet for the calves to lie down in. In other words, treat them humanely, as you would your own babies.

"It's a common sense method—keep everlastingly at it."

What is the plan of the United Farmers of Ontario? It includes cheaper production and a lessened cost of distribution. We will buy more cheaply, we will remove the machinery between the producer and consumer. This can be brought about by cooperation and organization.—J. J. Morrison.

**HARD JOBS MADE EASY**  
if you have an



**Alpha Gas Engine**

THE farmer who goes on doing all his work by hand is wasting a lot of time and energy.

He could accomplish a great deal more work, and do it more quickly and more cheaply, if he had a good gas engine.

For some reason, many farmers who without hesitation will buy a mowing machine that they can use only seven or eight times a year, will balk at buying a gas engine with which they could save time, money and labor every day. They seem to regard it as a luxury, when as a matter of fact it can be put to so many different uses that it will save its own cost more quickly than any other machine on the farm.

Go in and see the local Alpha agent. Let him show you for how many different purposes you can use the Alpha, and why it is the most economical engine to buy and the most satisfactory to own. If you don't know who handles the Alpha in your neighborhood, write us for his name.

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Ask for catalogue, prices and complete information. Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank cooled cylinder.

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**The Big "Little" Things**  
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Advertising is the greatest force in the commercial world to-day. It was through advertising that England's immense army of 600,000 men has been raised, and the success of the various business ventures. In Chicago, a recent investigation showed that the yearly turnover of business secured through the classified columns of Chicago daily papers was upwards of \$400,000,000, and this was secured for the advertiser on an expenditure of less than one per cent. That's what makes a classified advertisement the big "little" force of the world to-day. It gets big returns at little cost.

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**Classified Columns**

are for the man with something to sell, who cannot afford large space. The cost is small—only 3 cents per word and you reach 20,000 of the best dairy homes of Canada. If you have poultry for sale, seed grain, a farm, cheese factory, or if you want a man, a classified in FARM AND DAIRY will bring you the desired results. Try an ad. in our next issue.

**ADVERTISING DEPARTMENT**  
**Farm and Dairy Peterboro, Ont.**



MAN cannot make, but may ennoble fate by nobly bearing it.  
—Queen Meredith.

## Four Thousand Bushels of Corn

(Continued from last week.)

"Do you know of any other way you can get eighty dollars out of it?" Verne asked him.

"None," Jimmie admitted. "Well, it's your business, I suppose," Verne replied, "but eighty dollars would help considerably toward making a showing for your summer's work."

Jimmie hung up the receiver before he could be tempted further; he had serious misgivings himself as to the wisdom of rejecting Verne Wilson's offer.

So far, Jimmie had found no cause to criticize his new hired man. Bill Ellis was always up early in the morning; before breakfast he fed the horses, and curried and harnessed with them. He was a good hand with them. He seldom used a whip, and often stopped and lifted up their collars in order to cool their shoulders. His team always came in at night looking remarkably well for the amount of work they had done. Jimmie began to congratulate himself on his luck in getting so good a man. He even boasted a little to Sam Walker, when Sam came over one afternoon to borrow his post auger.

"I didn't say he wasn't all right," Sam said. "You may be able to get through the season with him without any trouble."

"May be able to? Now see here, Sam, I want you to tell me right now what you've got against Bill Ellis."

Sam shook his head. "I ought not to have said so much as I have," he replied, and walked away with the post auger.

Jimmie was determined to clear up once and for all the mystery about his new hired man. He drove to the blacksmith shop.

"I've come to find out what is the matter with Bill Ellis," he said, "and I'm going to stay right here until I find out."

"You'll be better off for not knowing, Jimmie," the blacksmith answered. "If he's a good, willing man, as you say he is, why not let it go at that, and not try to find out anything more about him?"

"How can I let it go at that when the people I meet insinuate that there is something wrong with Bill? If there is, I want to know it."

"And I suppose you'll find it out," the blacksmith said, "though I hate to be the one to tell you. Bill Ellis has just finished a term at the state penitentiary."

"So Bill Ellis has served time in a penitentiary, has he?" said Jimmie.

"Well, it won't make any difference with me. If he continues to work faithfully, he can stay as long as he wants to, and as long as he does stay, he will be treated as well as any man who ever came on the place."

"Good!" said the blacksmith. "Only

keep an eye on him. You can't trust a jailbird."

"Don't call him that again!" Jimmie exclaimed, hotly. "While he's working for me, he is a man, and I won't have him called anything else." "I deserved that," the blacksmith said, soberly. "I shouldn't have said anything in the first place, and I'll not say any more. I only hope Ellis will live up to your opinion of him."

Jimmie told neither Mary nor Aunt Jane what he had learned about the new hired man, and if he kept a closer



How many Old Ontario Districts can Show as Attractive Schools?

This illustration impresses us with the fact that in some sections of New Ontario at least, the children have the advantage of good schools. This splendid public school is at New Liskeard. There are about 600 pupils in attendance and the staff includes a principal and nine teachers.

watch of Bill Ellis than before, he did it so quietly that no one noticed it. Jimmie had intended to go to De Kaleb County on Saturday, but on Friday Mary received a letter from their older brother Walter, saying that he and his wife and baby would arrive from Chicago Saturday afternoon, to stay over Sunday.

Walter was a lawyer, and was regarded as one of the brightest of the younger men at the bar in Chicago. His father had almost become reconciled to his having left the farm.

"I'm glad mother and father are taking the summer off," Walter said, after Jimmie had come in from milking on Saturday evening. "They have surely worked hard enough all their lives to deserve it. I'm sorry for your sake, though, that it came just at this time."

"You needn't be," Jimmie answered. "I'm getting along finely, and I'm really enjoying the responsibility."

"The responsibility will do you good. But it wasn't that I was thinking of. I had found a splendid opening for you in the city—one that cut it had every day. The owners of a

wholesale paint company that we have occasionally had some dealings with have been looking for the right kind of young fellow to learn the business. I spoke to them about you, but they wanted a man this spring, and wouldn't wait for him on any consideration."

"Have they found anyone yet?" "I understand that they have. Don't take it to heart, though. There will be other chances, of course. The farm isn't a good place to grow up on, but there isn't enough money in it to make it worth while as a life-long job. Get into business, get as much financial interest as you can, and do the managing. That is one big difference between farming and business. Here you have two men working for you. In the paint business, for instance, you might have two or three hundred. That means automobiles, a fine house—everything that city life has to give to the successful man."

Jimmie's eyes shone. "You find a place for me this winter, and I'll be ready to start as soon as the corn is husked!" he exclaimed.

"It will break your father's heart to see the last one of his boys leave the farm," Aunt Jane said, quietly.

"He is sensible enough to want his boys to go where they can find the greatest opportunities," Walter replied.

On Monday morning a drizzling rain was falling. The old farm looked dreary enough to Jimmie after Wal-

ter's glowing accounts of city life. The boy plodded listlessly round through the mud, doing the chores; he tried to imagine that he was a martyr because he had lost the open air of the farm. But try as he would, he could not pity himself for long, and before noon he was whistling as cheerfully as ever.

Jimmie was hard put to it to keep the hired men busy during that rainy day; at last he sent them down to the cellar to sort potatoes, and went up to the attic himself to test some more seed corn. Early freezes the fall before, while the corn was filled with moisture, had injured a good deal of it for use as seed. Moreover, the exceptionally cold winter had gradually exhausted the vitality of a good many of the ears. The result was that even some of the best-looking ears were unfit for seed. Jimmie tested his corn by the "individual ear" method; he put six kernels from each ear into a box made especially for the purpose, and left them to germinate. At the end of a week he could easily tell which kernels were alive and which dead.

Sam Walker made a good deal of

fun of Jimmie's seed testing. In a tin can of dirt, Sam had tested a hundred kernels selected at random from his seed ears, and had found that only eighty per cent. would grow. He intended to make up for the low germination by thicker planting—a plan that would work all right if it were not for the fact that the dead kernels have a perverse tendency to flock together, so that on half of corn will have no stalks, and the next one four or five.

It was Wednesday morning before Jimmie found time to go to DeKalb County. The fields were dry enough to work again, and he set Bill to disking, and Jake to drilling in oats. It was half-past ten when he reached N. town, the county seat of DeKalb County. The baggage man directed him to the office of Professor Eckhardt, the farm demonstrator. Jimmie felt a little timid as he went up the stairs. Professor Eckhardt was a famous man in that part of the state, and very likely he would be far too busy to talk to an unknown man from another county.

Encouraging smile on the professor's broad German face as he gripped Jimmie's hand reassured the boy.

Jimmie told his story as briefly as possible. "Maybe there is nothing in the idea that something can be done with that poor land," he said, as he finished. "But I wanted to make sure."

"You did just right in refusing to rent that forty," the professor said. "If the soil there is what I think it is, you ought to raise a prize-winning crop of corn."

"How can I do it?"

"I'll have to explain a little first," the professor said, and thereupon launched into a long discussion of soil fertility. "I don't suppose you understand more than half of what I've been saying," he said, at last, "and it isn't to be expected that you should. Some day this alphabet of soil fertility will be taught in the district schools. Meanwhile, I want you to come to my house for dinner."

"Oh, I can't do that!" Jimmie exclaimed, in embarrassment. "You've done too much for me already."

"It does me good to talk to such an appreciative listener," the professor replied. "I wish that more boys would follow your example and stay on the farm. Ten chances to one they would live longer and more happily, and have more prosperity. I tell you, Mr. McKee, the big opportunities of the future are going to be on the farm."

At the "Mr. McKee," Jimmie threw back his shoulders instinctively.

After dinner the professor took Jimmie back to his office, and gave him several experiment station bulletins. "Study them during your spare time," he said. "I have jotted down on the margin of one of them the things you will need to do to your best forty. And if you need any more help, let me know."

Jimmie thanked him, and hurried away to catch his train. When he reached Duketon, he found Mary waiting for him at the station.

"I couldn't wait to hear what the professor told you," she cried. "Verne Wilson stopped in this afternoon. He said that his offer of eighty dollars for the rent of the peaty forty still holds good. We heard from father, too. The deed is done to go to the Yosems, because their trip so far has cost them so much more than they had figured on."

As Jimmie helped his sister into the buggy his face grew thoughtful. "They had counted a good deal on seeing the Yosems," he said.

(Continued next week.)

**THE UPWARD LOOK**

**Is It Possible to be Without Anxiety?**

By J. T. Mawson.

NONCE of us who have believed that God sent His only begotten Son into the world, that we might live through Him can ever doubt His love to us; but we may easily treat that love as though it had only secured future blessing for us and was entirely indifferent as to our present welfare; as though it came only to struggle with the burdens and difficulties of life and comes only to our aid when at last, wearied in spirit and body, we lay ourselves down to die. A Christian might not care to express it quite as plainly as that, for to do so would disclose a rebellious heart, and yet the thought is often present, and it makes itself articulate in the frenzied efforts put forth to do "the best one can for oneself," and in the depression and anxiety so prevalent amongst many who are intelligent as to Christian doctrines and sure of heaven at last.

When surrounded by material prosperity it is easy to talk of being without anxiety, but that talk is more sanctimonious cant if we become immediately burdened with care when the easy days are compelled to give ground before the steady advance of grim and heartless adversity. And we do well to test ourselves and to inquire whether we are ready for the great trial; whether our resources are equal to the conflict, and whether God is able and willing to carry us through or not. If He cares for us, then He is enough for any and every day; if He does not, we are in a worse plight than those who do not know Him.

Take the present state of things: Christian men cannot resist authority; they must be subject to the powers that be "for conscience's sake" and for "the Lord's sake" (Rom. 13; 1 Peter 2: 13). And subjection means for many of military age the break-up for the time being of their home life. It threatens a period of hardship, of trials entirely new to them, of which they cannot escape either day or night, and the burden of fear and longing for the loved ones at home. It casts a great burden upon the shoulders of the wives and dependants left behind; for in addition to the anxiety for the safety of their menfolk, there is the upkeep of the home and the care of the children, possibly on reduced resources. These are no trifles, and where the grace of God is flowing into the life has made the human sensibilities the keener, they will be the more sharply felt. These are realities, and this is a grave crisis, and to meet them, and it, something more is needed than empty theories and fair weather theology.

Would it not be an immense relief to all in these circumstances, or in any others that make demands upon us, if they knew that Divine love had not only provided for their everlasting felicity, but that God Himself—even the Father—was taking a personal, constant, and minute interest in each individual case? Would not such knowledge, if it were the deep conviction of the soul, bring a great peace into the life and drive away dull care? We know that it would.

Now to assure us of this God has taken infinite pains in His sure and holy Word; it is brigit with many faithful sayings in regard to it; and beautiful with many concrete cases in which His perfect care for those who trust Him is illustrated, but nothing is more conclusive and convincing in regard to it than the life of our Lord Jesus on earth.

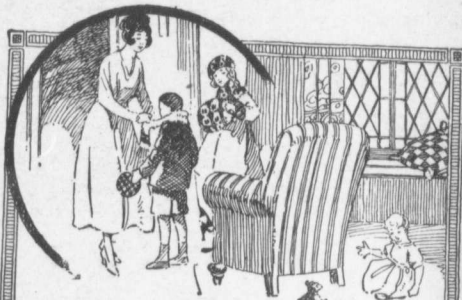
Let us consider, then, how the Lord

Jesus acted in regard to the matters domestic, and the general needs of those whom He loved, as shown us in the Gospel of John. In which Gospel, be it remembered, He comes forth as the Word, who was with God, and who was God—the great Creator of the universe become flesh for our blessing, and in that same Gospel He said: "He that hath seen Me hath seen the Father."

Is it not, then, most worthy of note and full of comfort to all who need comfort, that in this Gospel, and this alone, He is shown to us as a guest at a wedding, rejoicing with those that rejoice? and is it not equally significant, that in this Gospel, and this alone, He is also shown to us weeping with the bereaved sisters at the grave of their dead brother? The wedding is the beginning of the home period; the sealed grave is the close and the break-up of it, the darkest day of all. And the Lord, who came to earth to show to us the Father, was at both; and is there a day between the two when He is absent? No. He has said: "I will never leave thee, nor forsake thee," and that, be it noted, again in connection with the home life (Heb. 13: 46).

There are profound depths of spiritual meaning in these two incidents, and we should certainly seek these, but in doing so do not let us miss that that lies clear and plain upon the surface. Jesus, who is the Creator, the only begotten Son of God, the revealer of the Father, associated Himself with His own in the joys and sorrows of their home life. Perish the thought that we may only know His presence at the meetings for prayer or worship, that He only connects Himself with what are known as religious services. If this were all, then our religión were artificial and dead, and our Lord useless to us in this present stress, and scarcely of use to us than the dumb idols of the heathen. But He comes into the home life when He is allowed, comes in all the plenitude of an inexhaustible grace, rejoicing if we rejoice, and Himself becoming the source of a joy that earthly circumstances cannot yield; and standing by us in days of stress and sorrow, to sympathize with and support the heart that looks to Him. How near this brings Him to us; how real it makes Him; how tender and accessible it shows Him to be.

If this is the case, and only those who do not know the Lord will deny it, then all we have to do is to bring our need to His notice. At the wedding in Cana and at the sorrowing in Bethany this was done, and it was not done in vain. So that we would say to all who are affected by the present state of things, make your need known to Him—present your case before the Father, whom He was here revealing, and if in His love and wisdom He sees that it be for the blessing of you and yours, and for His glory, He will certainly order this so that you may still abide in the place where you are. If, on the other hand, He permits your rest to be disturbed, and you to be flung into new conditions of life, if separations that tear and lacerate your very heart are to be your portion, and you are sundered for a time from those dearer to you than life, you may accept this as His will for you, quietly and confidently. Commit your whole case to Him. He knows and sympathizes, and He will not permit you to be overburdened; not a feather's weight more than you are able to bear joyfully will be put upon you, and though you may be reduced to a material comforts, you will be greatly enlarged in the knowledge of Himself—who is the Lord Almighty, and who has said: "I will be a Father to you, and ye shall be My sons and



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Further information about the "Hecla" will be found in the clearly illustrated booklet, "Health and Comfort." This booklet is free for the asking. With it we are sending a copy of the valuable pamphlet, "A Pure Air Heating Plan." As the edition is limited you will be wise to get your copy without delay.

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**Learn More About Food Values**  
"A. E. C. Observer," Yale-Car Dist., B.C.

On first thought it would seem that there is very little more the farm woman can do than she has already put into practice. But with careful consideration it is surprising how many helpful ways open up. One of the most important of these is understanding more about food values. There are five main groups of food—protein, fats, carbohydrates, mineral salts and bulk, and every meal should have some of each of these groups to make it well balanced and nourishing. Many foods are equivalent. Therefore the woman who "knows" will be able to substitute dishes of milk and eggs for more expensive meat, and will of-

with the women folk to train the rising generation for their great work in helping Canada readjust conditions after the war, until patriotism.

Another way in which we can do our bit is by saving rags. Appeals are being made throughout Canada for the saving of old clothes and rags, that they may again be used in the manufacture of shoddy to relieve the strain upon the wool supply. Discarded clothing is separated into all-wool, cotton, and cotton and wool classes.

We should study politics. This is extremely important, owing to the fact that so many of our best men are at the front. It is necessary for the farm woman to have a wide knowledge of existing conditions in order to help her country and to vote wisely.

We should keep in mind at all times the injunction: "Satisfy only actual necessities." It is a good plan also to put up the following mottoes in our living rooms and live up to them: "Keep Smiling," and "Why Worry?" If the farm woman succeeds in keeping up a cheerful front she will be assisting everyone with whom she comes in contact. There are fewer opportunities on the farm for self-idealism than in town. Picture shows and extreme fashions are not here to tempt us. Therefore good cheer and encouragement are needed to help the rest of the family to adjust themselves to new conditions. We can also help by sewing and knitting for the Red Cross and by sending cheerful letters, papers and parcels to the boys at the front, especially at Christmas time.

We should practice thrift in clothing. It is time now to consider what the family needs and what we have that can be used for another year or made over. Outgrown woollen garments can be cut down for the youngsters and hose re-footed.

Coming back to the question of food again, we can help by serving sufficient of a few articles of diet at a meal, rather than a little of many kinds, and thus lessen the temptation to overeat. By encouraging eating slowly, so that food may be well masticated, less food will be needed for the upkeep of the system.



Chums.

Mr. John Laidlaw was one of the four earliest settlers in the Paisley Block of Joseph Township, which was set-Scotland. At the time this photograph was taken Mr. Laidlaw was 87 years old. He is one of the few remaining representatives of a class of men who might well be called "The Real Makers of Canada."

ten use vegetable oils instead of butter for cooking.

We can learn to substitute low-priced foods for more expensive ones. Daniel of the Old Testament thrived on pulse and water to drink. Beans, peas and lentils can be used to advantage in soups, or combined with a little meat and tomato sauce. Less tea and coffee and more water or milk might not come amiss. Rice may be used with tomatoes or cheese for the principal dish, while corn meal makes good mush. Milk is very nourishing and can be used in puddings, sauces and creamed soups.

By avoiding all kinds of waste we will also be helping to economize food. Leftovers are best made into soup. A stock pot at the back of the stove is a good idea, and every particle of leftover vegetables, cereals, meat or bones of meat can be placed in it. Dry bread and crusts can be put in the oven to dry further, then put through meat chopper, rolled with the rolling pin and used in many ways instead of cracker crumbs. Vegetables should be conservatively cooked. The water in which they are cooked should be kept and served as soup or sauce, thickened slightly, thus saving valuable mineral salts. A double boiler or steamer are well worth using. Another way to save is to cook potatoes in their jackets.

We should make a special effort to train the children aright. Hon. John Oliver, Minister of Agriculture for British Columbia, claims that the great need of to-day is to have the people realize that they should be more self-dependent, and the training for this must begin with the child. They should learn at an early age to govern themselves. One method of achieving this is to let the children "take the consequences," instead of punishing them. It is also very important for them to learn the value of money. This is best taught by giving the children an opportunity to earn their spending money, and will make it easier to teach them how to spend and to save wisely. It largely rests



A Picture for Daddy.

The little lad in the illustration here-with was a mere infant when his daddy left for the front. We can imagine how pleased the proud father would be when he received this interesting snapshot. —Photo by an Editor of Farm and Dairy.

**Pennies Saved Are Pennies Made**  
Miss Effie Armstrong, Stormont Co., Ont.

Men have known for ages what war costs women. But what is new, is the general recognition that war makes a call upon women, not only to suffer but to serve. In days of old women undertook the same service as men and went into the

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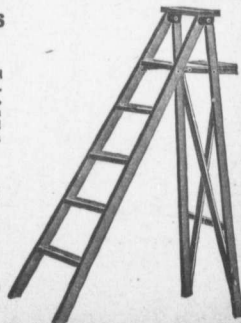
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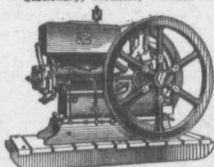
It is 16 feet long, closed, and extends to 32 feet. Sides are clear, straight-grain, B. C. fir, reinforced with wire cables, hickory rungs, and malleable iron, self-locking hooks. They cannot slip. Total weight carried—easily raised. You can get this ladder absolutely FREE OF COST TO YOU.

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field and fought. All of us wanted the strength or opportunity to do what Laura Secord or the Heroine of Verchères did, and the world is not in the stage of evolution at the present time when women can best serve their country in the field of battle. We are no longer called upon to take part in the physical conflict, but our help is none the less essential.

We are continually hearing the word "economize." The best rule to follow is "economize whether it is obligatory or not." There are a great many things the farm woman can do to cut down the high cost of living. No matter how small the savings may seem, it counts, for a penny saved is a penny earned. At present, the slogan is "can all you can," and this means a wonderful saving. In my home, factory canned goods have always been unknown. Peas, string beans, and tomatoes are easily canned, while corn and pumpkins are more easily dried. All vegetable and fruit varieties that do not keep well can be dried. All extra vegetables which keep well can be stored and used as green feed for the winter egg layers. All properties are cheaper when purchased in bulk. A little wartime economy I've added is to make cake to silye, thereby saving the icing.

Where there is a large family, calico and muslin cut to better advantage if bought in large quantities. Last winter's clothes can be remodelled. Cotton flour and feed sacks make good towels when bleached. Old lace curtains make good dish mops. It is a good rule not to discard anything unless worn to shreds. Then the junk dealer will give you a cent a pound for it.

Turning to the poultry yard, I find it most profitable to sell ducks green, chickens and turkeys at Thanksgiving and geese dressed at Christmas. Give your hens lots of sunlight, water, grit and green feed and they will lay better on less grain.

We should try to do all the work outside we can, but never attempt to work beyond our strength. The doctor's fee for one visit would hire a man for 10 hours.

## Bulbs for Home Decoration

Mrs. Wm. Barnett, Essex Co., Ont.

I AM not a scientific grower of bulbs in the strict sense of the word, but have grown and studied them for many years, because of a love for them. There is no more fascinating occupation during the cold winter months than the culture of these bulbs in the living room. They are easy cultivation, certainty of bloom, rich coloring and fragrance are sufficient to account for their great popularity.

Proper treatment begins with getting the bulbs in a compost prepared as nearly as possible after the following formula: One-half loam, one-fourth rotten cow manure and one-fourth sand. After getting my bulbs, I water them well and then set them away in a place that is dark and cool. I leave them there to form roots. This will take eight to 10 weeks, though some bulbs root sooner than that and some require a longer period. Much depends on the condition of the bulbs at the time of planting. It is necessary that these instructions be fully carried out if good results are expected. If the bulbs are potted and put in a warm light place as soon as potted, growth of the top and root begins at once and goes on at the same time. The top growth will naturally be weak, because there are no strongly developed roots to support it. Such plants do not always flower and if they do, their flowers are apt to be weak, few and generally disappointing. I leave the bulbs in the dark until the soil is filled with roots and they will then be ready to make a strong and healthy growth as soon as they are brought to the light and warmth.

I cover potted tulips to a depth of two inches, narcissus the same, while hyacinth bulbs should be placed about their depth in the soil. Freesia and smaller bulbs do best from one to two inches under the surface. The hyacinth has been a popular flower for years and no flower is more deserving of popularity. It is both beautiful and easy of cultivation—qualities which strongly commend it to the amateur. It blooms early in the season, remains a long time in flower, ranges through so many shades of rich and delicate colors, that all tastes can be suited and it has a delightful fragrance which is sufficient to make it a general favorite. After flowering, the bulbs should not be disturbed until they have an opportunity to ripen thoroughly. This stage of their growth can be told by their leaves turning yellow. When they arrive at this stage I lift them carefully, avoid bruising and dry them off and expose to the sun. When the outside skin has a silky look, I store them in paper bags.

Planting Determines Success. Since we cannot do very much for bulbs after they are planted, it is wise to do all that is possible to ensure success at planting time. Autumn is commonly considered to be the correct season at which to put in bulbs. While this is generally true, it is not wholly, and the amateur who restricts her planting to the autumn months, will miss some very charming flowers. I would strongly recommend planting all spring flowering bulbs by the beginning or not later than the middle of October, with the possible exception of the May flowering tulips, which may be left until early November, as they do not bloom until late spring or early summer. All the small early flowering kinds, such as crocus, snowdrops, etc., ought to be planted by September.

It is astonishing to find how popular the practice of growing bulbs in fibre has become during the last few years.

This is not to be wondered at, for in this way any one may grow bulbs in their home windows and watch their gradual development from the unfolding of the first leaf to the opening of the last flower. The principles are the same as growing them in soil, with the exception that one must be careful not to have an excess of moisture, as it is harmful, especially before the bulbs are well rooted. Growing in fibre is another favorite hobby with many folks and is certainly a very delightful one. Special hyacinth glasses, fashioned with a heavy mouth on top into which the bulb fits, are most convenient. These glasses are brought to the light when top growth begins. Chinese filices are usually grown in fibre, but with pebbles to support them and will bloom in a short time after being planted.

After bulbs have flowered they may be replanted later in the garden and they will increase and continue to bloom for years.

Farmers' sons may attend the Saskatchewan College of Agriculture, but in the absence of any school of household science in Saskatchewan the government pays grants to all farmers' daughters from Saskatchewan who attend a course of domestic science in other provinces and pass their examinations successfully.

The Editor,  
Farm and Dairy,  
Peterboro, Ont.

Your renewal notice came this morning, am sending you \$3.00 instead of \$2.00, and you can mark me for next date the same. I would not like to do without Farm and Dairy now.

Yours truly,  
(Ed.) C. J. Hyde,  
Huntingdon Co., Que.

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tario Government has granted the application of the company for an increase in its capital stock from \$10,000 to \$250,000. Mr. J. J. Morrison and the acting manager were appointed to make arrangements for the sale of the new stock.

The directors present were: President, B. C. Tucker, Harold; vice-president, Elmer Lick, Oshawa; secretary-treasurer, J. J. Morrison; and manager, E. C. Gurney, Toronto. W. C. Good, Paris; E. C. Drury, Barrie; R. H. Halbert, Melancton; A. A. Powers, Orono; W. McInnes, Guelph; L. Schurr, Shallow Lake.

**Farmers Interests in Danger**

**L**EADERS in the farmers' movement in Ontario are strongly of the opinion that the welfare of farmers is seriously endangered by the increasing demand of city consumers, backed by the powerful daily press, for the placing by the government of maximum prices upon food products grown by farmers without any restriction being placed at the same time on the prices of the articles farmers buy. The result of such a policy would be to squeeze farmers between the fixed prices on their products and the increased prices they would have to pay for their necessities.

The matter was discussed at a meeting last week of the directors of the United Farmers' Cooperative Co., Ltd., held in the office of the company in Toronto. In this connection a letter was read from Mr. John Bowers, Secretary of the Central Brant Farmers' Club, enclosing the following resolution that had been passed by the club:

"Whereas we believe that the fixing of maximum prices on farm products without the fixing of maximum prices on what the farmers have to buy is calculated to result in still further curtailment in farm production, and whereas we believe such a result would be a national disaster,

"Therefore, be it resolved that we ask the officers of the United Farmers of Ontario to arrange for an interview with Hon. W. J. Hanna at the earliest opportunity so that the farmer's side of the case may be presented to him."

**Resolution Endorsed.**

The foregoing resolution was discussed and it was decided unanimously to endorse it and to urge the officers of the United Farmers of Ontario to arrange for the desired interview. Mr. E. C. Drury, of Barrie, said that the same crowd that is shouting for the setting of certain maximum prices on farm products now are likely, if successful, in securing what they want, to demand still lower prices a little later, especially if hard times occur after the war.

**Conference With Editors.**

Feeling that the situation is serious and that the farmers' side of the case is not being given due publicity a meeting of the executive committee of the D. F. O. was held recently, at which it was decided to invite the publisher or business manager and the managing editor of each of the five daily papers in Toronto and Hon. W. J. Hanna to attend an informal luncheon at which two or three speakers on behalf of the farmers would by the situation before them as strongly and thoroughly as possible from the farmers' standpoint. It was further decided to invite the editors of the farm papers to attend the luncheon.

The higher the price of feed and labor, the higher the price the dairyman can afford to pay for a pure bred sire. The better bred the heifer the greater are the chances for returning a profit.

**AUCTION SALE**  
— OF —  
**Pure Bred Stock**

Under instructions from the Minister of Agriculture, there will be held at the

**Ontario Agricultural College**  
**Guelph, Ontario**

— ON —  
**THURSDAY, NOVEMBER 1st, 1917**

a Public Sale of surplus Pure-bred Stock belonging to the Ontario Government, and comprising Shorthorn (beef and dairy), Holstein, Jersey and Ayrshire cattle; Yorkshire and Berkshire swine.

For catalogues apply to

A. LEITCH, Ontario Agricultural College,  
Guelph, Ont.

**When You Write---Mention Farm and Dairy**

**Can YOUR Cream Separator**  
**Meet This Test?**

The Babcock Test measures accurately the percentage of butter-fat still remaining in the milk after it passes through a cream separator. In the picture we show two Babcock results as indicated by the measurement tube of the Babcock Testing bottle. The long black column on the first tube in the circle shows the result obtained by testing the milk skimmed by ordinary separators; it shows a loss of .1 per cent. butter-fat. The small black mark on the other tube shown represents the extra small loss obtained by the Standard's close skimming, which gets all but .01 per cent. of the butter-fat. The comparison indicates a clear gain of .10 of a pound of butter-fat on every 1,000 pounds of milk you skim—if you use the



**THE BABCOCK TEST**

Explanation—In the circle above we show two enlarged sections of the graduated tubes on the Babcock testing bottles. The black marks show the amount of butter-fat left in the milk after skimming. In every hundred parts of milk tested, the butter-fat must be separated from and measured. That is what the Babcock Test does. On the experimenter wants to get the butter-fat separated and sent. By a simple process he does this and he then knows exactly how well the skimming has been done in the

**Standard**

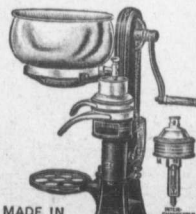
This saving of cream by the Standard is well worth while, for it means an extra profit of about half a pound of butter-fat per cow per week. Multiply this  $\frac{1}{2}$  pound saved by the number of cows in your herd, and ask yourself, "Can I afford to lose this extra profit? Will it not pay me to own a Standard?"

Before the Standard goes to you, it must prove its close skimming by meeting the Babcock Tests made by our experts in our own factory. These tests have been confirmed by independent Babcock tests made at the Government Dairy Schools, Ottawa. They all prove that the Standard out-skims other machines.

The Standard's exclusive curved wing center piece eliminates whipping in the distribution of the whole milk to discs. This means firm butter. The Standard not only saves cream, but it gives better quality results. If you want sweet, firm, high-grade butter, you can have it by using a Standard.

The Standard is entirely made and designed in Canada by Canadians.

Send for interesting literature describing the Standard's low supply can, interchangeable capacity feature, self-oiling system, etc. Tear out and mail this coupon today.



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Eastern Branch, Sarnia, N.B. Agencies almost everywhere in Canada.

**FOR SALE AND WANT ADVERTISING**

THREE CENTS A WORD, CASH WITH ORDER

WHITE AND COLUMBIA WYANDOTTES, LIGHT BRAHMS, S. & WHITE LEGHORNS.  
Michael K. Boyer, Box 22, Hamonton, N.J.

FOR SALE—Two Success Churns, six hundred gallon size. One latest cast iron type, the other steel frame. Will sell at a bargain. Apply Caledonia Creamery Co., Caledonia, Ont.

WANTED—Cheesemaker for the Donegas Cheese and Butter Company, Limited, for season of 1918. Duties to commence about April 1st, 1918. Single man preferred. Tenders will be opened October 18. Apply to Emerson Vipond, Secretary, R. H. No. 2, Alwood, Ont.

Cheese Factory fully equipped, never failing stream, cheapest spring water through factory; basement curing room, ideal drainage, good house in connection, year over one hundred tons. Box 60, Farm and Dairy, Peterboro.

FOR SALE—One large boiler, 50 H.P., and 25 H.P. engine; one grain grinder in roller in good condition. Apply Shelden Cheese and Butter Factory, Shelden, Ont.

The East Zorra and Blandford Cheese and Butter Manufacturing Company will receive tenders until November 1st for the position of working manager of their cheese and butter factory. Manager to furnish all supplies, which must be first-class. 1918 makes—Cheese 138 tons, Butter 59 tons. Duties to commence on or about February 1st. Any required information furnished. James Laird, Sec.-Treas. Inverkip, Ont.



Butchers' bulls, choice	8 00 to
do. good	7 00 to
do. medium	6 25 to
Butchers' cows	8 00 to
do. good	7 00 to
do. medium	6 00 to
Feeders	8 00 to
do. good	7 25 to
do. medium	6 25 to
Canners	5 25 to
Milkers, good to choice	6 00 to
do. com. and medium	65 00 to
Springers	40 00 to
Calves, veal	15 00 to
do. medium	11 00 to
do. common	8 00 to
do. grass	6 00 to
do. heavy fat	17 00 to
Spring lambs, ewe	10 00 to
do. heavy and light	8 50 to
do. cults	4 00 to
Hogs, fed and raised	18 75 to
do. off cars	16 00 to
do. T. & B.	17 75 to
Less \$1 to \$2 on light or thin hogs	16 00 to
\$2 to \$3.50 on sows; less \$4 on sows; less \$5 to \$1 on heavies.	16 00 to

**THE H. F. YEAR BOOK.**

A COMPLEMENTARY copy of Vol. 6 of the Canadian Holstein-Friesian Year Book has just been received by Farm and Dairy. The year book contains a list of all official and semi-official Friesian and Holstein-Friesian breeders in Canada, which have been admitted to the Record of Merit and Record of Performance, together with a list of all record cows with the proven sons of such sires and dams, also the highest record cows in each division. This compilation is of valuable information regarding the family and cannot help but prove of great assistance to all scientific breeders. We note that the list of record cows has now increased to 41. The volume can be had on application to the Secretary, W. A. Clemons, St. George, Ont., at a fee of \$1.00.

**AN HOUR AT VILLA VIEW.**

OUR Live Stock Representative while passing through Western Ontario recently had a very pleasant and profitable stop-over with Arbogast Brothers, of Straburville, Ont. These well-known breeders of Holsteins are enjoying a unique success in both their general farming operations and in the breeding of registered, record Holsteins. From appearance of their best cows were dry, or nearly so, but their cows during the time of our visit were in the best of condition. They should be in line for some excellent work during the coming lactation period. Their old bull, King Segis Alcazar, Calambay, has left them excellent stores. From him they derive a fine bunch of heifers, which should show their share in upholding the present high standard of the herd. They have also two young bulls, which are now being advertised in Farm and Dairy. The object of greatest interest at Villa View Farm, however, is a very promising young bull, owned jointly by the Arbogast Brothers and Peter S. Mitchell, Ont. This young chap, Dutchland Pontiac, Ont., appeared recently in Farm and Dairy, on whom a more extended write-up appeared recently in Farm and Dairy. This is a very promising youngster. Besides his breeding, which is known to all, he is a splendidly turned chap, with the right conformation and splendid substance. Going hand in hand with his breeding operations, there is easily noted the systematic method of general farm practice. A notable feature is a large field of corn 24 acres, and good enough to

win third place in the Stratford District Field Crops Competition. To make the best use of this corn are two large concrete silos, and it is quite likely that they will both be filled. Arbogast Brothers there have made good in their farming operations. Their years of successful dairying with grade Holsteins gave them a correct foundation for the head of pure bred Holsteins, which they have been developing in the last few years. Addition to this is the wise selection of the finest of herd sires, such as they possess, in King Segis Alcazar, Calambay and the 450 young herd bull recently bought from the Fred F. Field herd, Brockton, Mass., Dutchland Pontiac Colantha.

**BIG AUCTION OF JERSEYS AND OXFORDS.**

THE auction sale of 50 Jersey grade cows and heifers and three yearling bull calves, to be held at the farm of James E. Fallis, about two miles from Brampton, Ontario, will be one of the dairy features of Ontario for this fall.

This herd has been used for supplying dairy products to the City of Toronto. It has been established for a great many years, and regularly inspected by a competent veterinary officer. The best possible pure-bred sires have been used in the herd, and a grading process on the females continued from year to year. Two of the yearlings in the offering have been imported from the United States. The sires selected from a herd given to high and economic production, well-shaped and strong animals, as one of the first essentials. The cows are practically all young, and the herd is absolutely healthy. It is now just ready for a big winter's work. Fifteen of the cows and five two-year-old heifers are awaiting.

There is one yearling bull that will be an opportunity for some breeder requiring a choice felloe. His dam produced 1137 lbs. of milk and 237 lbs. of butter fat, calving within the ten months of lactation. This butter fat was equivalent to over 62 lbs. on 85 per cent of basis. Her record is therefore a particularly good one. The sire is a large, powerful, finely shaped udder, good teats, and bull is especially cowy and so convenient from heavy producing stock. Any Jersey breeder wishing to get new blood, or any farmer wishing to increase his production, should not fail to attend this sale. In addition to the large number of Jersey are ewe and ewe lambs, together with 3 yearling and 17 ram lambs. They represent much of Ontario's best breeding. In addition there are 100 Oxford and Shropshire grade ewes, and 100 grade cats. Mr. Fallis is dividing the sheep in pens of suitable sizes for the auction, so that each person at the sale can see and know exactly what sheep he is bidding on. Each purchaser's sheep will be marked as he buys them. Breeders and others requiring choice stock should not fail to be on hand on October 17th.

**A GREAT CANADIAN-BRED AYRSHIRE.**

THE first Ayrshire cow to claim a five year cumulative official test formance in the Canadian Record of Performance is the dairy of Ferndale-56735. Daisy is owned by W. C. Tully, Athelstan, Que. test by W. C. Tully, Athelstan, Que. A young man business. Her tests have been under ordinary conditions. She is a regular milking machine, and it is with some difficulty that she is dried off each year. In fact, during the past three years (five years' test) she dropped six living calves. As a result, she made her first record of 15,234 lbs. milk and 520 lb. of fat. In the next lactation period of ten months she gave 14,530 lbs. milk and 521 lbs. fat. In the next five years period she gave 7,247 lbs. milk and 273 lb. of fat. She is a large cow, of splendid Ayrshire type and excellent dairy form. Wm. Thompson, of Athelstan, Que., is the breeder of this cow. Her sire, Lord Ronald of Ferndale-56732, traces the sire's side to Comrade of Garlar (Imp)-4183, by Miss F. E. Eyer of Wynholm and also to Nellie Osborne-1470, by Mary. His dam, Lady of Montebello-7347, traces on the sire's side to Mrs. J. A. D. Darchesha (Imp)-5262, and directly to Nellie Osborne (Imp)-5263, and on the dam's side to Lord Dufferin-117. The dam of Daisy is also Lady Maid of Montebello-7347, and her sire is her sire. Thus there is strong line breeding, borne and twice to Nellie Osborne-1470 and twice to Lord Dufferin. All were strong strains, which accounts for the quantity and heavy production of this cow.—W. F. Stephens.

50 HEAD

50 HEAD

## GREAT AUCTION SALE

—OF—

### Pure Bred and Grade Jerseys

Property of Jas. R. Fallis, Brampton, Ont.

## OCTOBER 17, 1917

This is a great sale of grade Jersey cows and three Registered Bulls; 15 fresh cows, some bred again; 15 springing; 10 heifers in calf, mostly springing; 10 calves; one yearling bull whose dam has Record of Performance test of 11,197 lbs. milk and 533 lbs. fat, and a calf within 10 months; two yearling bulls imported this year.

### 300 SHEEP

#### Pure Bred and Grade Oxford Sheep

80 Registered Oxford ewes and ewe lambs; 3 yearlings and 17 ram lambs Reg. Oxford; 100 grade ewes (Oxford and Shropshire); 100 grade ewes. All ewes are young and sound. Farm two miles from Brampton. Morning trains met by motor.

Terms of sale:—Ten months credit on approved joint notes. Discount for cash.

## JAS. R. FALLIS - Brampton, Ont.

## THE Farm Help Shortage

In these times of severe handicap in getting things done on the farm, wouldn't you consider as most valuable any means that cut the time and labor cost of milking in two? Get a

### BURRELL (B-L-K) MILKER

Even in normal times, when help is easy to get and keep, dairymen often figure the Burrell Milk-ers pay for themselves in eight months.

One man, with two two-cow machines, will milk 24 to 30 cows per hour, and, with care, will produce milk of certified grade in ordinary stables.

Write and tell us how many cows you have. Send a rough outline of your stable. What power will you use? Then we can give you an estimate on the cost of an outfit to you. Illustrated book free.



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**Cut Your Own Feed**  
Our feed cutters embody the latest improvements for insuring the danger and inconvenience of loading the danger of their work quickly, easily, satisfactorily. There's a machine that will exactly meet your requirements among the best and power outfits of the kind.

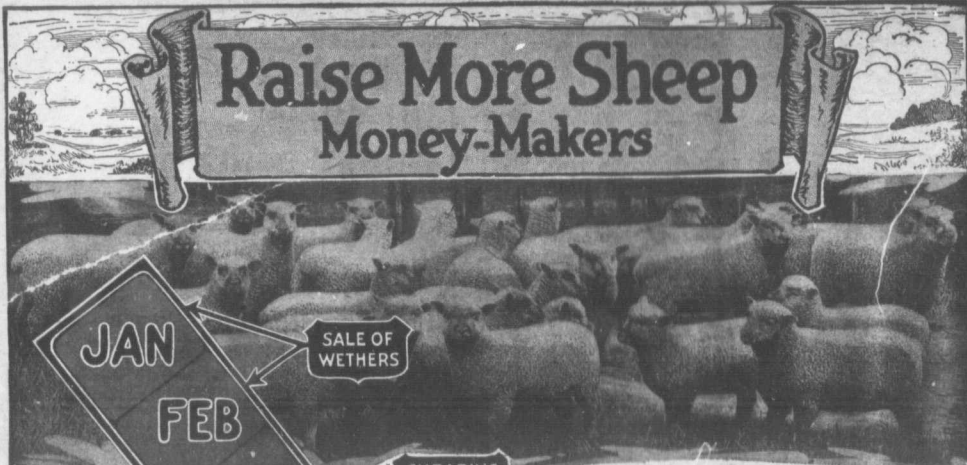
**Peter Hamilton Feed Cutters**

They are made of the best materials throughout, and the knives are adjustable for cutting all kinds of fodder.

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**PETER HAMILTON CO., Limited,**  
Peterborough, Ont. 25

# Raise More Sheep Money-Makers



THE SHEEP WORLD HAS ITS PLEASANT  
MONEY-MAKING ACTIVITIES  
EVERY MONTH IN  
THE YEAR

## One Million More Sheep are Wanted in Ontario

The Ontario Department of Agriculture is anxious that more farmers go in for sheep raising and offers suggestions.

Ontario now possesses only two-thirds of a million sheep, and we should have at least two millions. Owing to the world-wide scarcity of sheep and the abnormal demand for mutton and for wool, there should be good profits in sheep raising on a larger scale in Ontario. The breeder should keep all his good ewes and see that surplus good breeding stock does not go to the butcher, but to his neighbor for breeding purposes. The highest priced mutton and the best breeding stock come from the United Kingdom, where the sheep are in the greatest numbers, compared with total farm acreage.

Practically every farm can raise some sheep. Start with a few and work up.

Sheep are hardy and require no special expensive buildings—freedom from drafts and dampness, and a little extra warmth at lambing time are all that is needed. As weed killers you can't beat sheep—they are money makers in this way alone. Roots—turnips preferred—and clover or alfalfa hay during the winter and summer pasture in May, June and July, then pasture and rape until November 1st or even later, are the simple food requirements.

The illustration above shows the methods generally adopted, month by month, in the raising of sheep. For further information about any stage—breeding, sale of wethers, lambing, castrating and docking, dipping, shearing, sale of lambs and wool, or for any other particulars you would like to have, write the Commissioner of Agriculture, Parliament Buildings, Toronto.

A copy of the "Shepherd's Hand Book" with description of breeds, and breeding tables will be sent on request. Report of Co-operative Wool Sales in Ontario will shortly be issued. Send in your name for a copy.

### SHEEP POPULATIONS

Country	Population (Millions)
UNITED KINGDOM	22
AUSTRALIA	63
NEW ZEALAND	24
UNITED STATES	50
ARGENTINE	80
CANADA	2

## Ontario Department of Agriculture

SIR WM. H. HEARST,  
Minister of Agriculture

PARLIAMENT BUILDINGS, TORONTO

DR. G. C. CREELMAN,  
Commissioner of Agriculture

