

# FARM AND DAIRY & RURAL HOME



DEVOTE TO  
BETTER  
AND  
COUNTRY  
JULY 10 1916  
Peterboro, Ont., July 10, 1916



"WHILE THE SUN SHINES."

ISSUED EACH WEEK

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ONE DOLLAR A YEAR

## In Times Like These

when help is so scarce and duties are so many, the wise dairy farmer conserves his time and strength, recognizing that a saving of these puts dollars in his pocket. Probably never in the history of the dairy industry were prices so good for dairy products; and never was help so scarce for the reaping of this rich harvest. One of the surest labor savers and money makers on the modern dairy farm is the



Note the heavy compact construction and convenient height of supply can and discharge spouts. The top of the supply can is only 3/4 feet from the floor.

## Simplex Cream Separator

It cuts the labor of skimming milk more than in two not only because it turns faster than most other hand separators, regardless of capacity, but because it does the work in half the time; and in these busy days, with labor scarce and expensive, a saving in time is a direct monetary saving to the dairy farmer.

The Simplex skims so clean and runs so light that the large 1,100-lb. size, when at speed and skimming milk, takes no more power than the ordinary 600-lb. Hand Separator of other makes. The Simplex, combined with the

## B. L. K. Milker

on your farm gives a combination of labor-savers and money-makers unequalled. Space prevents us telling you all we would like to about the B. L. K. Milker, how it renders you independent of careless and irresponsible hand milkers, how one man and a boy are milking 50 cows in an hour and a half, and a hundred and one other points we cannot begin to mention. We have prepared some mighty interesting literature, though on the Simplex Separator and B. L. K. Milker, which is yours for the asking. Write us for it. It will help you to

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## Western Canada Edition---Out August 10

This is easily the finest edition we have yet put out. The contributors to this number are men who stand out prominently in the life of WESTERN AGRICULTURE. Their contributions are an indication of the scope and magnitude of this issue and the appreciation by our Western people of the work Farm and Dairy is doing.

### YE MEN WHO SELL

make sure you are represented in this issue. Have your strongest copy so prominent on our readers. Make your reservations now. We can reserve you a special position to-day. We may not be able to do so to-morrow. First forms close August 2. Last forms August 4.

ADV. DEPT.

Farm & Dairy, Peterboro, Ont.

## Two Successful District Conventions

Enthusiastic Meetings of the United Farmers of Ontario Held at Belleville and Chesterville

THE success that attended the district conventions of the United Farmers in western Ontario also characterized those held at Belleville and Chesterville on July 5 and 6, respectively. The fact that alfalfa hay was in full swing, interfered to some extent, but the enthusiasm shown by the farmers of Eastern Ontario was quite as great as that shown by their brother co-operators in the western counties. The same speakers addressed the eastern as the western conventions.

### The Work of the Grain Growers.

Vice-President Kennedy of the Grain Growers' Grain Company, Winnipeg, in outlining the work that had been done by that company and by the Grain Growers' Associations of the prairie provinces, stated that when meeting the tremendous opposition they had to face from the financial interests and their political friends, they had found it necessary to dig up all the facts obtainable and to give these wide publicity. They had, therefore, established their own official organ, the Grain Growers' Guide, which was owned, controlled and financed exclusively by the organized farmers of the prairie. They had also found necessary to provide their own printing plant, for they were afraid that sometime, perhaps when an election was on and they were keeping their members informed of the political situation, some of their political friends, who love the cause of the farmers so much, would come along with \$10,000 or \$200,000 as an inducement to printer to have his printing plant break down. They were now printing "The Guide" in a plant of their own that ranked second in the city of Winnipeg in size and in quantity of the work done.

In outlining the development of the sport business of the company, Kennedy stated that the subsidized press had endeavored to take advantage of the profits they made to discredit the company in the eyes of farmers. They had devoted whole pages to explaining that a company with a capital of \$100,000, having total profits in a year such as they realized last year, must be a company of the same material as the grafters they were so willing to denounce. Mr. Kennedy pointed out, however, that since entering the business they had prevented the profit on the exporting of wheat from going above two cents a bushel, whereas investigations had shown that in 1908 the profit had ranged from five to ten cents. The subsidized press, however, had no comment to make on the companies who made such exorbitant profits.

What the farmers' cooperative company in Ontario needed was stronger financial support. It would be necessary for them to have a line of credit large enough to enable them to do business on a large scale before they would be recognized by financial interests. How could they expect a company with a capitalization of only \$7,000 to \$8,000 to get any more recognition by a commercial house than a small dealer in the corner store. They must first create a financial institution with sufficient financial backing and large enough trade to demand the capital could be created by subscribing for stock in the company, or it might be built up by taking subscription for a commercial house to enable them to write a certain amount over to a reserve fund each year.

### The Work of the U. F. O.

President Halbert of the United Farmers of Ontario said that there was nothing about prices to be afraid of. Politics were simply the science of good government, whereas party

politics was a curse. In their work they scarcely ever found a farmer who was willing to agree that farmers should be organized. They recognized that they should have an organization and one with a purpose. The united work of the allied armies, which were operating together, was demonstrating the military strength of a war machine more powerful than any one of them, was quoted as an illustration of the benefits of cooperation. Farmers should be organized for sociability, for education and for the purpose of presenting a united front in demanding a square deal from the legislature. The aim of the United Farmers of Ontario was to place the profession of farming in the province on a level with any other calling.

**The Work of the Farmers' Company.**  
An outline of some of the problems, successes and difficulties in conducting the United Farmers' Cooperative Company was given by Manager Greig. He stated that the company was called for the purpose of discussing our problems in general. However, business was one of the farmer's problems, and the problem of doing business cooperatively was one of the greatest confronting him. Farmers may have given evidence that sometimes they do not stick together, but lately they have been giving good evidence that they can stick together. The benefit that was soon derived by the farmers from the operations of the company was not fully recognized. They had proved in many districts to be the regulating factor in setting the prices of the commodities which they handled. One instance was given where the price of cement had been reduced from \$1.80 a barrel to \$1.60 on all cement handled in the neighborhood, the reduction being due to the prices quoted by the farmer company. At the present time they were not able to render the farmer the service that they might if they had more capital, but were rendering it on a larger scale. They were not in a position to secure from manufacturers the prices which they hoped to be able to do when their financial picture became stronger.

Among those who spoke at the conventions were Secretary Morrison of the U.F.O., whose address is given on another page of this issue, and Jas. E. Anderson, of Prince Edward county, who stated that he did not like the idea of having his earnings, that belong to his home and family, taken away, but that so long as farmer stood around and let other men do the business that they should do themselves, those men would get the money that rightly belonged to the farmer's home and family.

The size of the silo should be determined, not by present requirements, but by future needs. Better build it 50 per cent. bigger than is now needed. Once you get using silage, you will probably grow more of it. Are you building a silo this year? There is nothing that will enable a man to save his feed so that his cattle will utilize everything there is in it, like a good silo.

Two-thirds of the feeding value of the alfalfa plant is in the leaves. If the leaves are lost in curing only one-third of the feeding value remains. This makes it important that alfalfa should be cured with the leaves. This means that the alfalfa must be raked into windrows before the leaves dry or they will fall off. The silage should be raked into windrows either once or two after the leaves are once saved the leaves, but also keep it green and more of the favor is retained.



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It Welcomes 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. XXXV

PETERBORO, ONT., JULY 13, 1916

No. 27

## The Progress of the Farmers' Movement in Ontario\*

From Small Beginnings the United Farmers of Ontario Have Made Good Progress But Much Organization Work Remains to be Done—By J. J. Morrison, Secretary, United Farmers of Ontario

TWO years ago last March the United Farmers of Ontario and the United Farmers' Cooperative Company were organized. The idea of forming the company was to have a legal organization through which the clubs and members could do business with one another. On July 22nd following, a business office was opened in Toronto, and we applied for and secured a charter under the Ontario Companies Act. We have a joint stock company with \$10,000 capital. This is divided into 400 shares of \$25 each, and of these about two-thirds have been sold to clubs and members.

One reason why more of our stock has not been sold is largely because only two of our clubs have taken more than one share. A club with a membership of 25, with only one share of our stock, has therefore a per capita investment of only one dollar. Of course, we have many individual shareholders. All the directors of both the association and the company have taken stock, thus showing that they have confidence in the company's future. Next winter, however, we expect to undertake more aggressive work in getting our stock before the farmers and inducing farmers' clubs affiliated with our organization to take up more of it.

One of the improvements that we have in mind for next winter is to get the clubs to adopt more uniformity in the selection of the dates for meetings. We usually have some literature that we wish to send to them, and in the near future we hope to begin issuing a four or eight-page paper or bulletin, through which we hope to reach the majority of our members. By having all the clubs meeting on one night, or at least on a night of the same week, we would have no trouble in getting information to them while it is still fresh. Our literature could be published to reach clubs at about the time of their meeting if this uniform system were adopted.

### The Winter Convention.

It seems advisable at present that we change to some extent the programme of our winter convention at Toronto. At present the convention is wide open when the business of our company is being discussed. No other company competing for the people's trade would allow of that procedure. It may be that we will call one business meeting of the secretaries of clubs in which the business of the company will be discussed in detail. We could retain full control of who is to attend this meeting, and of the information that goes out from it. We will also have an open meeting in which everybody interested in the

movement will have an opportunity to hear of the business that is being carried on, and of the progress that it is making.

In connection with the organization of our work, our first consideration should be to increase the number of local clubs. Of these we have now about 200 in affiliation, with a membership of 5,000. This is not enough for the Province of Ontario. There are, roughly speaking, 20,000 school sections in the province, and there is no reason why there should not be farmers' clubs in most of them. To assist in this work it is the present plan to make these district conventions a permanent affair. We shall endeavor, however, to hold them at a more opportune time of the year. They would be better held in the fall, say

November, just when the clubs are starting in on their winter programmes.

After the war, when the armies are disbanded, and the nations get down to the business of paying off war debts, we shall have a period of reconstruction. The prospects of the farmer during that period are not bright. The war debt will have to be unloaded on somebody, and judging from past experience, the burden will fall heavily upon agriculture, for though taxation can be shifted by the financial interests to the farmer, it cannot be shifted by him to other people. When the war broke out it was found necessary to devise new taxes, such as the stamp duties. At that time it was said that these taxes would be borne equally by all classes of the community; that the railways, the banks, the express companies and the patent medicine concerns, would all have their share to pay. But what do you find? Go down to the station and buy a ticket for Toronto and find out who pays the railway company's war tax. Tender a cheque at a bank, buy an express order, or a bottle of medicine and see who pays for the war stamps. The bulk of taxes of this kind can be shifted to the farmer, but there the shifting stops and the paying begins.

### Representative Government Threatened.

There are other matters on which the farmers will need to keep themselves informed regarding this question of taxation. Recently I heard in Toronto a man by the name of Curtis who represents what is known in Great Britain as the Round Table Conference. He openly ridiculed our ideas of democracy. His idea of democracy was that a man should be appointed to run the country's business, and that we should stand behind him in everything he did. He outlined a plan by which the Canadian Government would appoint two or three men to meet in conference in Great Britain with similar delegates from other parts of the Empire. These men would settle what each colony should pay toward imperial defence. They would be supposed to tell our Government what they should pay, and we would foot the bill. As men who believe in representative government and in the principle that without representation there should be no taxation, are you prepared to have Government appointees dispose of your money in this manner with no voice whatever in saying how much shall be levied or how it shall be spent? Responsible government cost us a civil war in this country, and inside of 100 years, we are to be stripped of it. This is not a matter for politicians but for the people to settle, and the farmers, as the largest tax payers, must be so organized that their opinion will have proper weight, or the people in towns and cities will settle the question for them.



### Organization Born of Necessity

THE reason for an industrial organization among farmers must lie in some vital service which it is expected to perform if it is to have virility enough to live in the face of the competition to which every new farmers' organization is subjected. A farmers' business organization cannot be formed without competing with agencies already established. If it is a serious business undertaking, the forces of competition will be directed toward crushing it; it will be viciously attacked by its competitors; insidious suspicions of all kinds which are apt to influence the average farmer will be circulated regarding it; it may be crippled by the railroads through quiet discrimination in the furnishing of cars or in the extending of transportation facilities to its competitors, or by some other influence over which its competitors have control; and it is likely to fail at the start in the face of the fire which it will have to meet unless it is founded on the bed rock of necessity.

\* A synopsis of an address delivered at the District Convention of the United Farmers of Ontario.

## All Around the Farm

### Alfalfa as a Hog Pasture

By Joseph Irwin, Dufferin Co., Ont.

**A**3 alfalfa comes on fast in the early spring when the pigs are young and do not require much pasture, it is best to cut the first crop of the pasture lot for hay. I usually cut it pretty early, so that the second crop will come on in good shape for them. If the lot fenced off is the right size for the number of pigs kept, they will then keep it eaten down throughout the season. The tender young shoots keep sprouting out from the crowns of the alfalfa plant and these make the choicest of hog pasture. Not only are they palatable, but they also supply an abundance of material for producing lean meat. It is necessary, however, to take good care that plenty of rinds are placed in the noses of the pigs, for unless this is done, they will root out the alfalfa plants.

I find that pigs do best when they get a little meal in addition to the alfalfa, about one-half of what they would get if being fed on grain alone. In my experience alfalfa pasture with little grain produces strong, growthy hogs, not excessively fat, just the kind that drovers are willing to pay big prices for.

### The Horse in Hot Weather

By James Batts, Simcoe Co., Ont.

**A** GREAT deal can be done to keep the work-

ing horse comfortable during hot weather. So no men work their horses just as hard on a hot day as on a cold one. I have found, however, that it is best to work a team according to the heat of the day. If the sun is very hot, it is best to give them a frequent breathing spell, and if this can be done in the shade, so much the better.

Horses must suffer from intolerable thirst when forced to work

for five hours on a hot day without water. In winter they are not required to go longer than that, and can generally take three hearty drinks a day in the coldest of weather, if they are working. In hot weather, when they are sweating, they will drink every hour if allowed to. A man drinks three or four times as often in summer as in winter, and a horse's needs in this regard can very well be judged by those of a man. In some cities teamsters are required to water horses fre-

quently. On the farm it is not hard to provide water in the field. A few pails of it can be taken back in a half-barrel on a stoneboat. Even if a horse is hot, a little water will not hurt him if he is kept working. Water should also be given before feeding, as well as the last thing at night before giving the last feed of oats.

I believe it helps to keep a horse cool—it certainly makes him more comfortable—to take his harness off as soon as the day's work is finished, and sometimes, in very hot weather, at noon also. When the harness is taken off for the night, the harness marks and sweat should be sponged off with a wet cloth. He should never be left overnight without being thoroughly brushed. It is also a good thing to let a horse have a good roll just before cleaning. If a good piece of sod is at hand for the purpose it makes him feel better and then, with a little brushing, he is in good shape for the night.

Sometimes, in spite of all precautions, the horse will be overcome with the heat. This may not be due directly to the rays of the sun, for even on a cloudy day, if the air is sultry, this condition may be brought about. Some of the conditions are a high temperature, a rapid pulse, difficulty breathing and profuse sweating. The horse gradually grows weaker, and in many cases death results. The treatment for a horse overcome by heat is to remove him to a cool, quiet, well ventilated



The Big Barns on the Farm of W. W. Ballantyne and Son, Perth Co., Ont.

place and dash cold water over him. If ice is at hand it is a good thing to place some on his head.

### Saving the Clover Crop

**C**AN clover be saved in a silo? That is a question that has agitated the minds of a number of farmers this season as the rain kept pouring down almost every day, and they began wondering if the weather would settle in.



A Quick Trip to the Blacksmith Shop.

time to allow haying to proceed in the ordinary way. To save the hay crop dry weather is needed to put it in condition for storing, and with the possibility of continued wet weather the question arises as to whether green or partially cured clover could be safely placed in the silo.

Clover is not as safe a silage crop as corn, because it does not contain such a large percentage of the constituents necessary to the making of good silage. Corn is the most suitable crop for this purpose because it is high in the carbohydrates. From these, organic acids are formed which give to good silage its characteristic sour taste, and act as its preservative principle. In clover there is a danger of the development of the bacteria that cause decomposition. These, acting on the protein cause a disagreeable taste and smell that make such ensilage unpalatable.

Another plan of saving clover that has been only partially cured has occurred to some. That is to mix it with straw in the mow. The objection to this method is that a large amount of straw would be required to take up the excess of moisture. There would be a danger of not using enough straw to do this, and the result would be that the clover would heat in the mow and so end of trouble caused. The safest way to handle the clover crop is to make it into hay.

### The Value of Finish

By J. J. Ferguson.

**W**E find that a great many men, as soon as they get a cow that is through milking, run her to the market. You do not see so much of that at Toronto, although there has been too much of it some years, but at Montreal there is a lot of that kind of thing done. There are good possibilities in these cows from a beef standpoint. Nobody wants any great number of them. Take out the parts which can be canned and put a strip of tin around them and ship them off somewhere where people cannot get fresh beef.

A neighbor of mine went to Montreal last year and bought three car loads of these canner cows that still had some teeth left. He took them to his farm and gave them plenty of grass; he had some silage left over and he fed that to them and also gave them some meal. They were put out on fine June grass, and in 40 days' time he shipped them back to Montreal and cleaned up \$36.40 a head on them. That shows the difference between a cow that has some meat on her and one that has not. The men who ship that kind of stuff lose as much in the transaction as they do on any operation in the live stock business.



Good Dairy Stock Has an Interest for Everyone on the Farm.

—Photo on the farm of W. E. Dryden, Missisquoi Co., Que.

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## Milk Values

Few people realize how valuable cows' milk is as a food or as a beverage. In fact, milk is not generally considered a food of very great value, yet a quart of it is equal in food value to one pound of beef. Milk at 10 cents a quart is as cheap as any food sold at present prices. If people would drink more milk and less of the stronger things it would be better for them.

Milk can be put to many uses. This is probably one reason why it is so greatly in demand

and why the dairy industry continues to grow. The use of milk as a beverage may become common in the near future. At the Ontario Agricultural College experiments are being carried on with the object of producing a drink that will be satisfying to the taste and have a food value as well. It has been found that by adding common yeast and sugar to milk and letting it stand for from five to eight days a very agreeable beverage can be produced. One of the good features about it is that there are no disagreeable after-effects, like those so common with some of the present-day beverages.

19 years old last August, is still paying her board bill. Up to date she has produced 168,307 lbs. milk and 5,702 lbs. of butter. Every milking from this cow has been weighed and recorded. Alpha Elf, another of the stand-bys of the herd, was retained until seventeen years of age, and until she had 106,000 lbs. of Jersey milk to her credit.

## Start of the Jersey Herd.

Here again we have excellence of records as a result, not of buying but of breeding. In 1887 four Jersey cows were bought and added to the herd. No purchases of females have been made since that time, and since 1882 complete records have been kept of every cow in the herd.

While this herd has been in the process of development and up-building, it has served as a laboratory for student study and scientific research by Professor Eckles and his staff. This research work, in the main, naturally revolves itself into a study of the problems having to do with feeding and breeding. In other words, the effort is to discover how to make the most efficient and economically managed milk machine. The dairy cow, as is generally known, uses feed for four purposes: First, for maintenance; second, for growth; if immature or in poor condition; third, for milk production; if giving milk; fourth, for development of the unborn calf.

It is a common belief that unless a cow that is due to bring a calf is given heavy feed, the offspring will be small. The facts, as developed by Professor Eckles and others, seem to be that good feeding before calving is more important for the sake of securing high milk production by the cow than for fear the calf will not be properly nourished. Experiments show that less feed is actually required during the period preceding calving. This fact was arrived at by providing the same feed for several cows, only a part of which were due to calve; and also by giving the same kind and amount of feed to cows both before and after the coming of the calves.

## Feed or Inheritance.

Experiments have been conducted since 1905 to determine the effects of the ration fed to the cow when a calf, and the age at first calving upon the milking qualities of the cow when mature. The results have not been published in detail. The object is to determine to what extent the dairy qualities of a cow depend upon the method of raising and to what extent they are a matter of inheritance. In other words, is a good dairy cow or an inferior one made, or is she born?

Commenting on the results thus far obtained, Professor Eckles said: "If there is any tendency at all it is slightly in favor of light feeding as relates to milk production, but we are not ready to declare it a determining factor. There is something else. We think it is heredity. We are justified in saying that the large number of poor dairy cows we have in this country is due not alone to poor feeding, but to something else, perhaps heredity. You can't push feed into a cow's mouth and push milk out of her udder—not unless (Continued on page 6.)

## A Home-made Dairy Herd

And What Professor Eckles of Missouri, Has Learned About Cows

By W. L. Nelson, in The Country Gentleman.

ON the Missouri College of Agriculture farm at Columbia, a remarkable dairy herd has been developed under direction of Prof. C. H. Eckles. In this herd, consisting of about 85 head, Holsteins and Jerseys lead in numbers. The Holstein branch of the herd was established in 1902, when four pure-bred heifers were purchased at a cost of \$600—an outlay so modest that almost any farmer could have afforded it.

To-day the college, without ever having bought another cow, has a herd of 33 females, and has sold breeding stock to the cash value of \$6,218. A conservative estimate would value the 33 head at \$200 a head, or \$6,600 for the herd. Of course, no such prices would actually be considered, when six months old calves readily sell at \$100 and individual cows would command \$1,000. But \$6,218 cash from stock sold and \$6,600 in the herd at the place—a total of \$12,818—makes a rather satisfactory return from an initial investment of \$600.

"Yes," someone says, "it so happened that the four heifers were all good ones." But this was not the case; one proved rather mediocre, and after dropping a bull calf was disposed of. "But in your calculations no account has been taken of cost of keep; maybe these cows ate their heads off or entailed unusual expense" in some way," says someone else. Not so! Dairy products—milk and butter—have paid for all feed, care and other cost of keep. One Holstein cow has averaged 15,131 lbs. of milk a year for six years. Though the prices received have, perhaps, been slightly better than the average dairyman secures, it is also true that the cost of maintaining the herd has been somewhat higher than the cost of herds under general conditions.

Four of these Holsteins have made milk-production records of 23,000 lbs. or more. Missouri Chief Josephine, in one day produced 110.2 lbs. of milk—55 quarts—and in one year made the remarkable record of 26,861 lbs. of milk, or 925 lbs. butter. Carlotta Pontiac, in one year produced 22,593 lbs. of milk and 885 lbs. of butter. In a year's test, which ended October 19, 1914, Pontiac

Lady Josephine produced 23,493 lbs. of milk, or 11,193 quarts, a daily average for the year of nearly eight gallons. The butter from this milk record ever made in Missouri. Another high-yielding cow in this herd is Pontiac Gerben DeKol, with a record of 20,694 lbs. milk and 720 lbs. butter.

It is interesting to note that the herd bull long in service, has 34 daughters in the Advanced Registry. "But," comments Professor Eckles,

## What Prof. Eckles Has Accomplished

THE dairy herd at the Missouri Agricultural College is a homemade herd. The 85 head of Holsteins and Jerseys have all been bred from a small purchase of foundation stock made years ago. Six Jersey cows have records of more than 700 lbs. of butter in a year. Four Holsteins have records of 23,000 lbs. of milk or more. The data that has been secured regarding the breeding of these herds is perhaps the most valuable available in the dairy world. It is for this reason that we reproduce in Farm and Dairy the article adjoining from "The Country Gentleman." Every dairy cattle breeder and feeder will find in it something to interest and profit him. We commend the reading of this article to all of Our Folks.

"Advanced Registry records are, after all, of comparatively little value, as they fail to tell us what we most need to know—ancestors. That is, unless we know of the poor producers as well as of the high ones."

The Jerseys in the college herd are also out of the ordinary, as the following figures of individuals and herd performances prove: Six cows bred and raised in this herd have butter records of more than 700 lbs. in one year, and six other cows have produced from 600 to 700 lbs. Grace Briggs,



Prof. Eckles of the Missouri Agricultural College, Breeds and Selects His Dairy Stock. Here are 13 of the 27 Descendants of One of His Pure-Bred Ayrshire Cows. The Balance Have Been Sold.



### GET ALL THE BUTTER FAT

TO operate at full efficiency and deliver all the cream, your separator must be lubricated with an oil exactly suited to its construction. Many oils form "gum," thereby clogging the delicate mechanism of the separator, and thus causing irregular spinning of the bowl, reduction of speed and consequent loss of cream.

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## A Home-made Dairy Herd

(Continued From Page 5.)

she possess on the stimulation to give milk. Just where this stimulation comes from we don't know. We think that we have made certain findings along these lines, but as yet what we actually know is but little.

### A Handicap to Dairy Research.

Professor Eckles sees in the lack of trustworthy, complete and comprehensive records a serious handicap in the realm of dairy research. Incidentally, it may be said that his work and the figures he has compiled constitute perhaps the most valuable contribution ever made by any one man to this particular branch of animal husbandry. For instance, it is believed that his figures on early and late calving constitute the only accurate scientific data known to be available on this subject.

The need for many additional records and of much more work that has been accomplished is clearly apparent to him. He now plans to keep all heifers of whatever breed, and so get records covering one or two years. By thus getting the records of the daughters of each bull in service, it will be possible to make some valuable comparisons. There is also great need for a table showing group averages as well as individual records.

In work done at the Missouri College of Agriculture, actual figures have been kept on 76 Jersey cows, all descended from the four head purchased in 1887. Speaking of these production records, Professor Eckles says: "The conclusions drawn are that the dam exerts very little influence on dairy qualities in the daughter. In my opinion, the milking qualities are inherited much more from the sire than from the dam, but I am not prepared to say where the male gets his food qualities." Selecting high-producing cows, without any attention to the male, will not get us very far.

### When Selecting the Bull.

Attention is called to the fact that it is not sufficient to select a bull from a high-producing cow. We should ask: "What of her sisters?" The cow—the mother of this bull—might be a good daughter in a poor family. She might be an individual with a world's record, yet be a freak herself.

"In selecting a bull to head a dairy herd pedigrees are worth while; but the only absolutely safe plan in purchasing a bull is to know the record of the daughters," says Professor Eckles. "We can go wrong on pedigree because we do not generally have any way of knowing how many poor individuals as well as how many high-producing ones there are. In some instances a seventy-five-dollar bull has proved superior to a high-priced animal of rich pedigree."

Frequently a farmer or dairyman disposes of a valuable bull before he learns his real value, as demonstrated in the daughters. A few years ago, for instance, the Missouri Dairy Department disposed of a bull that went to the owner of a grade herd. Later, when the daughters of his bull came into milking, they proved so superior that the sire, which had been sold at a nominal price, was bought back and again put into service in the state herd.

### How Fat Per Cent. Varies.

While all of these things have to do with the practical phases of dairy farming, much valuable scientific progress has been done by Prof. Eckles and his staff. It is a fact generally known to dairymen that many high-producing cows while on official test have made much better showings in percentage of butterfat for the first seven days than for the entire milking period.

Some records are given in the accompanying table:

Name of Cow.	Per cent. fat in first seven days record	Per cent. fat in entire record
Cedar Lawn DeKolt Johanna	4.02	3.70
11805	4.02	3.70
Maretha Late 6094	4.21	3.73
Victoria V 8827	3.92	3.48
A. & G. DeFruite DeKolt	4.17	3.75
11783	4.17	3.75
Mermald Gerben 5057	4.50	3.73
Artasia Kornayke 8031	4.26	3.64
Gracie DeKolt Koradyke 8030	4.01	3.54
Daisy Lincoln 7984	4.23	3.71
Edith DeKolt Burke Heister	4.04	3.58
veid 7814	4.04	3.58
Lady Bak Homestead Brinsley 8482	4.51	3.44
Pontiac Pyrrhia 5775	4.01	3.31
Winnipeg	4.01	3.31
9542	4.01	3.31
Missouri Chief Josephine	4.09	3.29
6912	4.09	3.29
Carlotta Pontiac 70469	4.15	3.30
Average	4.35	3.41

Just what are the determining factors and how the percentage of butterfat may, for a time at least, be influenced, Professor Eckles started out to determine. Data now on file at the experiment station indicate that when the cow has a considerable amount of fat stored in the body at the beginning of the milking period the milk will contain a higher percentage of butterfat for a certain period than will be the case if the animal is thin in flesh at the beginning of the milking period.

"One of the necessary conditions in bringing about this abnormal percentage of fat at the beginning of the milking period," says Professor Eckles, "seems to be under-feeding." This truth is simply illustrated in the case of a Jersey cow that had been liberally fed when dry in order that she might be decidedly fat at calving. For the first thirty days after calving, during which time she was given a ration of 15 pounds of grain and 7 pounds of alfalfa hay, her butterfat fat was 6.01 per cent. From the thirty-second day there was an increase in both grain and hay fed with a corresponding decrease in butterfat. For instance, on the fifty-first day—15 pounds of hay—the milk tested 4.23 per cent of butterfat. On a normal ration this cow's milk tested 4.8 per cent. So it will be seen that the percentage of fat during the first thirty days' period was abnormal. It isn't always safe to base a milk cow on a seven-day butterfat basis.

### The Economical Producer.

Why the Jersey cow more economical producer of butterfat than the Holstein? Why is the Holstein able to produce milk more economically? Are there breed differences, or is the answer found in pounds of cow to be kept? As every dairyman knows the usual explanation of the more economical production of fat by Jerseys and Guernseys has been the fact that milk of these breeds contains more fat in proportion to the other milk constituents.

The work of Professor Eckles strongly suggests another explanation, that the difference is with the maintenance. In their production of fat in the richer milk shown to be due to a smaller maintenance requirement per unit of fat on account of the smaller size of the animals producing the richer milk. As every dairyman knows, says: "It has been generally assumed that cows producing rich milk produce fat more economically. Our data indicates that there is some basis for this belief, although the advantage in favor of the rich milk is not of great importance."

OLDHAM Ont., Canada successful plan and this is a new management knowledge of the Recent Dairy agent Louis N. Clainger by 21 man of 20 acre farm



Laying

methods that on the average observations those of our poultry farmer

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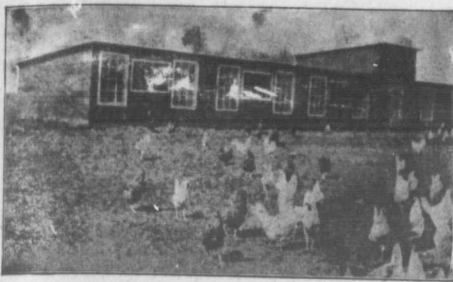
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When You Write -- Mention Farm and Dairy

### Notes From Oldham Farm

OLDHAM FARM at Port Hope, Ont., is the largest egg farm in Canada. It is one of the most successful poultry plants in Canada, and this is due to its practical business management, as well as a knowledge of feeds, feeding and breeding. Recently an editor of Farm and Dairy spent an afternoon with Mr. Louis N. Clark, the proprietor, an engineer by profession, and a poultryman of choice. On all of his 15-acre farm we found nothing in its size is designed to accommodate 90 White Leghorns or 70 Barred Plymouth Rocks, the two breeds in which Mr. Clark specializes.

The walls are cheaply constructed, of single ply lumber to the south, but to the north and west the walls are double boarded with paper to make them very secure. The roof is of single boards covered with prepared roofing. The partitions between the pens are of cheap cotton, which, along with the rest of the house, is white-



Laying Headquarters at Oldham Poultry Farm, Port Hope, Ont. —Photo by an editor of Farm and Dairy.

methods that might not be duplicated on the average farm. A few of our observations may be of interest to those of Our Folks who are in a poultry frame of mind.

The continuous laying house is, in fact, almost altogether taken up with more than a great number of detached houses. There are three long houses and the favored one is divided into compartments 16 feet deep by 17 1/2 feet long. They are of abnatty roof style, seven feet high at the front and five feet at the back. A little over half way up at the back of the house are the drop boards, four feet wide with three roots running the length of the house above them. The nest boxes, 12 in number, in two tiers, are on one side of the house, and on the other side are the feed boxes and the water pens. In the feed box there is a small compartment for oyster shell, washed twice a year. The floors are of earth elevated above the level of the surrounding land, and, of course, all through the winter season are kept deeply littered with clean straw. Mr. Clark lays great emphasis on the arrangement of the front of this house. It is almost altogether taken up with two large windows at either end and an open space between covered with wire netting and protected with a cotton screen which is let down only in the coldest weather. The windows are three or four inches wide by five feet high, and extend from about 18 inches above the floor, almost to the eaves. The screen is 3 x 5 feet, extending lengthwise, and is located well up to the top of the front. We might mention that there are tight partitions between each pen, extending from the back to the front of the drop boards, the cotton extending from there to the front of the house.

Barred Plymouth Rocks and White Leghorns on Oldham Farm. —Photo by an editor of Farm and Dairy.

one for charcoal and another for grit. This form of laying house, which The mash compartment is about four feet long. The hens are kept out of all of these compartments by laths nailed over them and up against the wall at an angle. The water basin is elevated on a small platform, so that no litter may be scratched into the drinking water. A compartment this only for the laying fowl and these are

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kept for only one laying season, as pullets have been found much more profitable than two-year-old hens. Each year the best of the pullets are selected for the breeding pens of the succeeding year, and these are kept in small flocks and housed in colony houses, being given free range. The result of this system of free range for the breeding flock, as well as for the growing chicks by the way, is a high percentage fertility in the eggs and the hatching of strong, vigorous chicks which reach maturity with but a slight mortality. Mr. Clark took us into his incubator cellar to show us a couple of trays from which he had recently tested out the infertile eggs. These seemed to be none missing, and we were told that that machine had tested out 97 1/2 per cent. fertile at the first test, and that this was not unusual. By thus patterning after farm conditions and giving free range, Mr. Clark hopes, rather is confident, of keeping up the vigor of his strain and this avoiding a difficulty into which many poultry fanciers have gotten who keep comparatively large flocks on little land.—F. E. E.

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

### Setting the Pace

THE address of Vice-President Kennedy of the Grain Growers' Grain Company, of Winnipeg, before the district conventions of the United Farmers of Ontario have been a revelation to many of the delegates of farmers' clubs as to what can be accomplished by farmers in their own interests through organization. That the farmers of the west, within the short space of ten years, with no help from outside sources, and in the face of the unrelenting hostility of powerful financial interests, should develop such an enterprise as Mr. Kennedy represents is encouraging to those who believe that the men engaged in our greatest industry are able to work out their own economic salvation.

There were some conditions connected with western agriculture—conditions that are absent in a mixed farming province like Ontario—that contributed much to the success with which the organization of farmers was promoted. The majority of western farmers were engaged in one line of production—grain growing. The manifest abuses that characterized the grain trade formed a central problem upon which the attention of the grain growers could be concentrated. As pioneers in a new country, to which they immigrated from many parts of the world leaving behind their local prejudices, they were in a frame of mind favorable to the adoption of progressive ideas. These, with other conditions that might be enumerated, favored the work of organization.

But there also existed many unfavorable conditions. Chief among these was the speculative rise in the price of land which for years gave to many a source of income outside that of production, and which gave to agriculture a false prosperity that tended to blind men to the true state of the industry. There was the question of racial

differences to contend with. The vested interests, seeing in the expanding agricultural industry of the country a chance for future profits fought tenaciously for the hold they had secured upon it. In spite of these conditions the prairie farmers have set the pace in organization. They have never lost sight of the fact that the true condition of their industry was unsatisfactory. They have succeeded in greatly improving that condition, and their success is primarily due to the fact that at the base of all their organized effort there has always been the true spirit of cooperation.

### On the Right Track

THE United Farmers of Ontario is patterned after the great farmers' associations of the west, out of which the Grain Growers' Grain Company grew. Like them its function is to provide a means whereby the social conditions of those engaged in agriculture may be improved and through which farmers can keep themselves informed on the great social and economic questions that affect them. It has the same sturdy independence of outside support, depending not on the patronage of other interests, of governments, but on the intelligence, initiative and energy of its farmer members. It is based on the deep-seated conviction among the farmers of the province that the conditions under which their labor demand united action in protecting their interests against those who have long considered them as their lawful prey. To any who would say that the condition of the farmers of Ontario is satisfactory the one fact of rural depopulation should be a sufficient answer. That this condition is due to special privileges that have been granted certain interests is evidenced by the fact that, in a province in which agriculture, the chief industry has never yielded more than a modest return, colossal fortunes are being accumulated by those enjoying the privileges. The recognition of similar conditions has energized the farmers' organizations in the west. It is energizing the United Farmers of Ontario.

Though the farmers' movement is as broad in its scope as the rural problem its first aim is the improvement of the economic conditions of farmers. By attacking the problem from the economic side the organized farmers show that they have a true conception of the matter. Any movement that fails to recognize that in the relationship that exists between the agricultural industry and other interests is the root the rural problem loses sight of the question the solution of which is the only means by which the condition of the farmers can be definitely and permanently improved. The United Farmers of Ontario are on the right track. They have the experience of former attempts to organize the farmers to warn them from the danger spots in the road. They have the inspiration that comes from a knowledge of what the western organizations have accomplished to stimulate them in their efforts to solve the farmers' problem. With prudent guidance and energetic work a large measure of success is sure to crown their united efforts to improve the conditions under which the farmers of the province labor.

### Help the Farmers' Company

AN increase of \$70,000 in the business of the United Farmers' Cooperative Company for the last four months as compared with the corresponding period of last year is but an earnest of the future expansion of the company provided it gets the support of the members, both in working capital and in trade, that its possibilities for benefiting them merit. The statement of Manager Groh that the operations of the company have not been as beneficial as they would have been had he been able to buy for cash in larger quantities should receive the serious consideration of every

one who wishes to see this important branch of the farmers' movement prosper. Ten thousand dollars is a modest capitalization for a company in which lies the possibility of changing the basis on which a large proportion of the farmers of the province conduct their business. The paid-up capital stock, which represents the amount of working capital with which the management has to do business is only about \$7,000, about what would be necessary to finance a village store or purchase a 100-acre farm. The total capital invested in Ontario agriculture has been estimated at about \$1,400,000,000. The farmers of the province are abundantly able to put the company in the financial position to conduct its business to better advantage. Once they have become impressed with the necessity of doing this they will doubtless come forward with the required capital.

Mr. Kennedy "hit the nail on the head" when he pointed out that the first duty of the organized farmers was to place their company in such a position financially that it could secure a line of credit sufficient to enable it to conduct business on a much larger scale. Until it is strong enough to demand recognition at the hands of the financial interests it will not be able to purchase in large enough quantities to secure the best prices. If sufficient credit were available at the banks so that manufacturers could be offered spot cash for goods in quantity the benefits derived by the farmers from the operations of the company would be greatly increased. Other questions, such as that of storage, would also be solved. Reduced prices with prompt delivery would soon result in an increase in the volume of trade. The advice of Mr. Halbert to "feed the company" is timely.

### Getting Together

MEN who can play together, laugh together, joke together and eat together, are not afraid of each other thereafter. They take each other's measure, and they think well of each other.

This getting together makes for good health, gives courage and lends animation.

It eliminates fear, hate, doubt, prejudice. It means a better understanding of the wants of the people and a better ability to serve the people. Also, it makes for honesty and truth. The liar is a man usually with a very limited acquaintance. You cannot lie to a large number of people. In an association, no lie but truth rose.

You can deceive a few people, but you can't deceive a thousand.—Elbert Hubbard.

The determining principle in all this religious culture for the marginal community shall be its value for the marginal people of the country population. These marginal people are the children and youth in all the families; secondly, the landless people who are doing the work in the country; and thirdly, the people who are unable to own the tools by which they do this work. (One might add further the non-English-speaking immigrant.) If the plans for rural religious life appeal to these, engage their interest, and enlist them in community life and feeling, then you may be sure that everybody else will be likewise engaged. What is done for the people on the margin of the community is done for all, and the ministry to the weakest member means a service to the whole population.—Warren H. Wilson.

With the Protestant churches, then, in rural communities we see a tendency toward division, intolerance, party schism and general decay.—James E. Boyle.

The church must come day repeat in sacredness and ashes because of the way in which it has been willing to crucify community harmony at the cross of denominational glory.—Holt.



## Hiring the Rural School Teacher

By Andrew Jackman, York Co., Ont.

NO duty is fraught with more possibilities of good or ill or country life than that of hiring the rural school teacher. By far the greater portion of our country boys and girls never get beyond the public school. At the same time few will deny that a fair amount of school training is necessary. The matter was summed up in a remark made by a practical man in the writer's hearing: "When I was a growing boy," he said, "my father was not particular to send me to school. I found out as soon as I commenced to sell produce and to transact other business on my own account, that it was bound to get badly left if I left everything to the other fellow. As soon as that summer's work was done I made for the school, and that was the best paying winter I ever spent."

Country boys and girls must make their own way in the world, and no better help can be given them than a good public school education. Their equipment will be all the better if they receive a couple of years in a good high school. It is the business of rural school trustees to see that a good education is within reach of every child within their school section. Such an education cannot be given unless the teacher has the teaching gift and takes a genuine interest in the pupils. Hence the need of exercising the utmost care in hiring the teacher. The best thing for a board to do in this regard is to retain and to encourage a good teacher when one has been secured. A good teacher already on the staff is worth a dozen to be advertised for.

When it is necessary to secure a teacher, it is best to advertise, select from the list of applicants, and then visiting the section in which the teacher's record has been made. The majority of men are fair-minded, and trustees may be depended upon when they approached to give a fair representation of the teacher's work and personal qualities. Men visit the home of animals before placing them in their hands. Why not visit the teachers, and secure the story of their achievements? Boards who have followed this common sense method have nothing but good to say of it.

With the academic and scholarly attainments of the teacher the trustees have very little to do. The law demands that they employ none but those qualified. With the fitness of the teacher to take the care of a rural school, the trustees have everything to do. Unless the teacher has the power of interesting the pupils in the great features of country life, or the org has no business in a country school. The training and the record of the candidate for the school should indicate power to light up the minds of country boys and girls to the advantages of country life in such a way that rural life will make at least as strong an appeal to the developing child as any other walk in life. Such teachers are available, and the public school trustee in a rural section has a great deal to answer for when he does not do all in his power to secure a teacher who knows country conditions and who is warmly and actively in sympathy with country life.

If the summer is wet, favoring the development of apple rot, spraying with lime sulphur or Bordeaux mixture will be found desirable as, sometimes, a crop which promised to be clean in the early part of the summer will, unless sprayed, be badly scabbed before reaching time.—W. T. Macoun, Dominion Horticulturist.

## Wayside Gleanings

By W. G. Orvis, Field Representative, Farm and Dairy.

## Feeding Dry Cows.

OUR most progressive dairymen have proven that if we wish to get big records from cows, it is almost necessary to feed in a high state of flesh before freshening. This can only be accomplished by allowing a period of rest and by liberal feeding during this period. The following ration used with good success by Mr. A. D. Foster and Sons, Prince Edward Co., Ont., is 100 lbs. bran, 100 lbs. oil cake, 50 lbs. of oats, 25 lbs. wheat, and 25 lbs. peas. It might be wise to try this ration with your dry cows this year and note the results when they freshen again.

## A Mixture of Clovers.

The growing of several clovers in combination is proving quite satisfactory in some districts. A prominent breeder told me recently that he had never had a sick animal when using this mixture of feed, but that it is often dangerous to feed alfalfa alone, especially in large quantities, because of its effect on some animals. The mixture which he uses is six pounds of red clover, six pounds of alfalfa, three of alsike and three of timothy. This gives him a large crop of mixed hay that is equally as good for feeding the cows under test, or in the ordinary working ration.

## Colts in Prince Edward County.

Live stock men and especially agriculturists on horse raising, are advising farmers to sell all the colts possible. They prefer to buy and raise the war for the best kind of horses. Prince Edward County farmers seem to be planning to take advantage of these markets, as many young colts are to be found in this year. It is quite apparent, also that these farmers believe that a mare is capable of doing much work on the farm and at the same time raise a good colt. Many mares are to be seen at work in the fields while their colt is kept in the box stall or paddock, getting its meals only when the mother returns from work.

## Housing the Wagon.

It was raining and a man drove up with a load of gravel. He asked the boss if he was to put the team in the stable. "No," said the man, "we will unload the gravel and then put the wagon under the shed." What did this mean? Just this: that the owner of the farm had discovered that it was cheaper to take a little time and trouble and have all implements housed than let them remain out in the sun and rain. It took only a few minutes to unload the gravel and soon the team and wagon were both under shelter. The percentage of depreciation was therefore kept at a minimum.

## Milking Machines Popular.

One hears a good deal of speculation about the success of the milking machine these days. Some dairymen are quite anxious to unload their milk cans and the others claim unqualified success in using them. Of the latter class is Mr. A. D. Foster and Sons, Prince Edward Co., Ont. Mr. Foster told me the other day that he liked the machine so well that he had ordered more units. As a proof of others liking it also, the manufacturing company wrote them saying that they were running at full capacity and could not fill the order for some time. Scarcity of labor may be responsible in some measure for the popularity of the milking machine, but the fact that it is doing satisfactory work is also very significant.

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cleaned, large capacity De Laval machines over all other methods or separators, which naturally counts for most at this time of the year.

HENCE THE GREAT MISTAKE of putting off the purchase of a De Laval Cream Separator in summer whether you already have a poor machine or none at all, and every dairy farmer should keep in mind not only that a De Laval will pay for itself by next spring but may, if desired, be used on such liberal terms as to actually save its own cost while being paid for.

EVERY CLAIM THUS MADE IS subject to easy demonstration, and every De Laval local agent is glad of the opportunity to prove these claims to you, in your own dairy, without cost or obligation on your part.

IF YOU DON'T KNOW THE nearest De Laval agent please simply write the nearest main office as below.

## Increases Milk Production!



If scarcity of labor prevents increasing your herd, remember that A Sharples Milker enables one man to milk 30 cows per hour—one-third the time required for hand milking.

## The SHARPLES MILKER

means sanitary milk—runs from teats through rubber tubes to sealed buckets. The Patented "Upward Squeeze" guarantees healthy teats.

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CREAM SEPARATOR

that gets all the cream at any speed. Saves 7 to 15 lbs. of butter per cow per year over other separators—no dips. Write for free booklet: "Desiring for Dollars Without Drudgery." Cost, \$10.00. Dept. 77.

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## CIRCULATION DEPARTMENT

Farm and Dairy

Peterboro, Ont.

## OUR FARM HOMES



THE secret of success in life is for a man to be ready for his opportunity when it comes.—Disraeli.

### God's Country and the Woman

(Continued from last week.)

NEVER in his life had his blood leaped more quickly through his body than it did now. It was not merely excitement—the knowledge that he had been close to death, and had escaped. From out of the darkness Jean Croisset had shot at him like a covard. He did not feel the burn of the scratch on his arm as he jumped to his feet. Once more he ran swiftly through the hall. At the end door he looked back. Apparently the shot had not alarmed the occupants of Josephine's room, to whom the report of a rifle—even at night—held no special significance.

Another moment and Philip was outside. It had stopped snowing, and the clouds were drifting away from under the moon. Crouched low, his pistol level at his side, he ran swiftly in the direction from which the shot must have come. The moon revealed the dark edge of the forest a hundred yards away, and he was sure that his attempted murderer had stood somewhere between Adare House and the timber when he fired. He was not afraid of a second shot. Even caution was lost in his mad desire to catch Jean red-handed and choke a confession of several things from his lips. If Jean had suddenly risen out of the snow he would not have used his pistol unless forced to do so. He wanted to be hand to hand with the treacherous half-breed, and his breath came in panting eagerness as he ran.

Suddenly he stopped short. He had struck the trail. Here Croisset had stood, fifty yards from his window, when he fired. The snow was beaten down, and from the spot his retreat-  
ing footsteps led toward the forest. Like a dog Philip followed the trail. The first timber was thinned by the axe, and the moon lighted up the white spaces ahead of him. He was half across the darker wall of the spruce when his heart gave a sudden jump. He had heard the snarl of a dog, the lash of a whip, a man's low voice cursing the beast who was striking across the denser cover of the spruce, and told him that Jean was not looking for immediate pursuit. He slipped in among the shadows quietly, and a few steps brought him to a small open space where a few trees had been cut. In this little clearing a slim, dark figure of a man was straightening out the tangled traces of a sledge team.

Philip could not see his face, but he knew that it was Jean. It was Jean's figure, Jean's movement, his low, sharp voice as he spoke to the dogs. Man and huskies were not twenty steps from him when the breath Philip replaced his pistol in his holster. He did not want to kill, and he possessed a proper respect for the half-trigger mechanism of his automatic. In the light he anticipated with Jean the weapon

would be safer in its holster than in his hand. Jean was at present unarmed, except for his hunting knife. His rifle leaned against a tree, and in another moment Philip was between the gun and the half-breed.

One of the sledge dogs betrayed him. At its low and snarling warning the half-breed whirled about with the alertness of a lynx, and he was half ready when Philip launched himself at his throat. They went down free of the dome, the forest man under. One of Philip's hands had reached his enemy's throat, but with a swift movement of his arm the half-breed wrenched it off and slipped out from under his assailant with the agility of an eel. Both were on their feet in



One Way Under Leadership of Overcoming the Dullness of Rural Life. A Scene Taken at a Boys' Y.M.C.A. Camp Near Ottawa, Ont.

an instant, each other in the twinkling of a dozen feet from the sledge team's watchful dogs.

Even now Philip could not see the half-breed's features, because of a hood drawn closely about his face. The "breed" had made no effort to draw a weapon, and Philip flung himself upon him again. Thus in open battle his greater physical strength and advantage of fifty pounds in weight would have won for Philip. But the forest man's fighting is filled with the elusive ermine's trickery and the little quickness of the big, furred cat of the trap-lines.

The half-breed made no effort to evade Philip's assault. He met the shock of attack fairly, and went down with him. But this time his back was to the watchful semicircle of dogs, and with a sharp, piercing command he pitched back among them, dragging Philip with him. Too late Philip realized what the cry meant. He tried to fling himself out of reach of the threatening fangs, and free one hand to reach for his pistol. This saved him from the dogs, but gave the half-breed his opportunity. Again he was on his feet, the butt of his dog whips in his hand. As the moon-

light glinted on the barrel of the automatic, he brought the whip down with a crash on Philip's head—and then again and again, and Philip pitched backwards into the snow.

He was not wholly unconscious. He knew that as soon as he had fallen the half-breed had turned again to the dogs. He could hear him as he straightened out the traces. In a subconscious sort of way Philip wondered why he did not take advantage of his opportunity and finish what he had failed to do with the bullet through the window. Philip heard him run back for his gun, and tried to struggle to his knees. Instead of the shot he half expected there came the low "Hoosh—hoosh—marche!" of the forest man's voice. Dogs and sledge moved. He fought himself up and away on his knees, staring after the retreating shadows. He saw his automatic in the snow and crawled to it. It was another minute before he could stand on his feet, and then he was dizzy. He staggered to a tree, and for a space leaned against it.

It was some minutes before he was steady enough to walk, and by that time he knew that it would be futile to pursue the half-breed and his swift-footed dogs, weakened and half dressed as he was. Slowly he returned to Adare House, cursing himself for not having used his pistol to compel Jean's surrender. He acknowledged that he had been a fool, and that he had deserved what he got. The hall was still empty when he re-entered. His adventure had roused no one, and with a feeling of relief he went to his room.

If the walls had fallen about his ears he could not have received a

light glinted on the barrel of the automatic, he brought the whip down with a crash on Philip's head—and then again and again, and Philip pitched backwards into the snow.

Not for an instant had his eyes left Croisset. Now he saw him start. His dark face took on a strange pallor. He leaned forward and his breath came in a weak gasp.

"The Virgin be praised, you are not badly hurt, M'sieur!" he exclaimed, rising. "There is a little blood on your face. Did the glass cut you?"

"No," said Philip, "overtook him in the edge of the forest."

"Not for an instant had his eyes left Croisset. Now he saw him start. His dark face took on a strange pallor. He leaned forward and his breath came in a weak gasp."

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Light on Scriptural Prophecy

The Restoration of the Jews.

IN some of the answers that have appeared in Farm and Dairy it is referred to the future of the Jews the statement has been made that the Jews are still to be reestablished to Jerusalem. Did not our forefathers prophesy that the Messias should be born in the land which they sought to then will I give it and to thy seed forever. No one can say that the Jews have possessed this land for nearly 1,500 years, although the promise of Abraham was that they were to possess it forever. How do you explain this?

The promise to Abraham and his descendants was modified by prophecies of three failures on their part: three dispossession and three regatherings to their native land. The first of these prophecies was fulfilled when the Children of Israel left the promised land and went into Egypt and were made captive under Pharaoh. They were restored under Moses. The second prophecy was that they should be taken captive by Nebuchadnezzar and led into Babylon. This was fulfilled. The restoration took place under Ezra and Nehemiah. The third dispossession took place under the Romans, led by Titus. The people of Israel have been and still are under this dispossession, although there are many signs now that they are preparing to return. It is wonderful to think that eight of these nine prophecies have been fulfilled, and that we are living when the ninth may be fulfilled at any time. Some of the interesting prophecies relating to the final regathering may be found in Deuteronomy 30: 4; Isaiah 43: 5-7; Ezekiel 34: 11-31; Ezekiel 36: 10; Ezekiel 37: 15-23; Ezekiel 39: 24-29; Jeremiah 31: 13. That the final restoration is to be a permanent one may be seen from such passages as Amos 9: 15; Ezekiel 34: 28; 36: 11-12; Isaiah 60: 15-16.

Sugarless Canning

By Mrs. R. J. Deachman.

THE steadily advancing price of sugar, due to the war, is causing many housewives to consider cutting down very materially their supply of canned fruits this season.

Fruits are so necessary in a balanced ration, however, that it is unwise to prepare to do without them, and as the season when they may be gathered and eaten fresh is a short one, some way to overcome the difficulty raised by the sugar prices should be determined.

Dried fruits are good, but most of the flavor and juice of the original fruit is lost in the drying process, and they are not as palatable or as valuable a food product as are fruits which have the volatile oils and juices preserved in some way.

While sugar has been soaring in price, it is well to remember that it is the only factor which makes preserving this season more difficult than in other years, for the prices of fruits, and jars and other necessary utensils are likely to remain as cheap as formerly. Sugarless canning, therefore, will result in a decided economy, for even if sugar is added when serving the fruit, the amount then used will be much less than the amount which would have been used in canning with sugar. The reason for this is that all fruits contain acids, and where cane sugar is cooked with a product containing acids, some of the sweetening prop-

erty of the sugar is lost, and fruits, therefore, are sweetened with less sugar after they have been cooked. Moreover, tastes vary so largely in the matter of sugar, that where each person is allowed to sweeten to taste it will be found that many prefer to use very little sugar in order to retain the original fruit flavor unspoiled.

Sugarless Canning will do more to teach the importance of sterilizing and sealing than any other lesson, for upon these two points depend your success. Fruits must be sterilized in such a way that all bacteria, molds, yeasts, etc., are killed and then sealed so that no further matter to cause decay may enter the jars.

The addition of sugar is not necessary to preserve fruits from decay, and used in the proportion usual in canning, it takes no part whatever in their preservation, for in order that sugar may act as an antiseptic it must be used in the form of a thick syrup, or, as in jams and jellies, where pound for pound is used.

Fruit must be sound. Do not use mushy berries, or overripe, spotted cherries. Sterilize jars, rubbers and tops

Educational Advantages

The Rev. John McElin, Ex. Pres. of Hamilton Conference, was a student at

ALBERT COLLEGE

Here is what he has to say regarding it: "I am thankful that I was led to attend Albert College, Belleville, where I took my first year university work. I have the happiest memories of the delightful association of that splendid institution and will ever be grateful for the social and religious as well as the educational advantages of my college days at Albert."

Send for illustrated calendar and terms. Fall term commences Sept. 7th.

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Note.—This article is the first of several on Sugar Canning, written by Mrs. R. J. Deachman. We have been fortunate in securing this article, as Mrs. Deachman is one of the foremost writers on the subject in Canada.



The "Aroostook" of Canada

By J. A. Macdonald, Kings Co., P. E. I.  
KING'S County, P. E. I., is certainly the "Aroostook" of Canada. In 1913 the total yield of potatoes was considerably over 300 bushels an acre, according to government records. Aroostook county in Maine never attained such a yield. That year the yield from the three counties of King's, Queen's and Prince, was reported to be 10,000,000 bushels. Of this, the production of King's was far in the lead. From close observation of the crops, weather and other conditions, I am led to believe that the yield of 1913 will be duplicated this year. The season thus far has been dry and cool, with no rain to rot the sets. I never saw potatoes come up so quickly as they did this year, and apparently every set has grown. I never saw a better stand of plants. It is going to be a great year for potatoes, at least in this county of King's.

On the North Shore, where I reside, the majority of the farmers have their potatoes this year in Kelp. This is where we have the advantage over the rest in Aroostook. They can not get any potassic manure, so badly needed for the potato crop, on account of the war. We have plenty of the very best potassic fertilizer in the Kelp, which we gather on the sea-shore, gratis. Kelp contains as much potash as kainite. It contains, according to recent investigations of Mr. Leslie Emble, Ottawa, 31 lbs. of potash in each ton of the water-soaked, fresh material as it is gathered on the sea-beach, and is consequently, worth, at present potash prices, \$15.00 a ton. Truly we show farmers here a valuable potash mine at our doors.

The Makers' Corner

Butter and Cheese Makers are invited to send contributions to this department, to be discussed on matters relating to cheese making, and to suggest subjects for discussion.

The New Dairy Act

J. MacGover, Oxford Co., Ont.  
THE Dairy Standards Act, making it compulsory to pay for milk at cheese factories on the butter fat plan, is certainly a radical piece of legislation. It sounds good, and will be instrumental in improving the quality of the Canadian cheese. This will be done by cooling and properly taking care of the milk, so that it will contain a better chance of getting sampled properly, thereby giving a higher and more accurate test. The act, if properly worked out, will be highly advantageous to the dairymen of the province.

But, to my mind, it is just as important for it to be carried out properly and accurately as for any other piece of legislation. The Government says, "You must pay or distribute the proceeds of your cheese factory on the butter fat basis." That is good. But they never will give the highest satisfaction until they follow it up farther and see that the milk is tested accurately by someone. There are many makers who have time and are qualified, but we know there are some who do not have time to do the testing properly, and others who are not qualified. To take the responsibility and burden off the cheese maker, and to give the highest satisfaction to the milk producer the Government should provide some means for a properly qualified, disinterested party to do the testing. This official tester would see, along with other incidentals, that the sample jars were kept properly. There are many things to be said in favor of

having a disinterested official to do the testing. It would establish confidence in the work on the part of the producer, and would relieve the maker of the responsibility and trouble incident to testing.

Pointed Remarks on Dairying Industry

G. G. Publow, Chief Dairy Instructor, Eastern Ontario.

THE most noticeable defect in our cheese is that of openness, due mostly to the unsound condition of the milk and this is a fault, which the maker experiences the greatest difficulty in remedying, frequently the cheese being apparently well made, but opening up afterwards from the effects of organisms that had been present in the milk. Such defects as these are, of course, avoidable if the milk producers will only do their part, and surely the record breaking high prices of the last season (averaging about 13 1/2 cts.) and which promise to be still higher next year, should do much to stimulate both the production of milk and the proper care of it.

Improvement that stands out prominently as a result of dairy instruction is the great decrease and almost elimination of acid or sour cheese, and as a result of the intelligent use of commercial cultures, they pasteurization and cleaner whey tanks, an almost equal elimination of badly flavored cheese.

We all must feel deeply the gravity and importance of the great death struggle for existence through which the Mother Country, our greatest cheese buyer, is passing and every Canadian dairymen should appreciate his individual responsibility in preparing his share of the product which enters so largely into the food supply of every Briton, whether he is fighting in the ranks or performing his duties at home.

The greatest needs of the creamery business are: 1st, Greater production of milk and butter per cow; 2nd, Improved quality of raw material, to obtain which we need more frequent washing of the separators and more efficient cooling of the cream; 3rd, More care and skill on the part of some of the makers, and better refrigerators in some of the creameries.

Advertise Our Cheese

G. G. Publow, Kingston.

I believe the time has come when we might well draw the merits of our Canadian cheese more forcibly to the attention of Canadian consumers. At Ottawa Exhibition last fall, not one person in a thousand, who tested our Cheddar cheese as we had it on the sample there, realized that it was the same class of cheese that we have been making and selling for years. They seemed to think that the word Cheddar meant some special brand of cheese, and wanted to know where they could buy it.

We've to advertise our cheese more, there would not be so much misunderstanding concerning it. The word should not be left entirely in the hands of the manufacturers.

There is a certain amount of labor connected with the operation of a creamery which must be done to keep the creamery running, and if any work is neglected, it is the little things which to some may seem of little importance, but which nevertheless weigh heavily for or against the success of the creamery.

Washing the hands before milking would be almost a joke on some farms; but all the best dairymen do it.

Veterinary Department

Lame Calves

ABOUT the month of March calves get lame, and from that time on, lameness appears on each side of fetlock. Sometimes hump rises all way around from the claws on front of foot. Calves stay lame for four or five months, sometimes not quite so long. Lump appears to be hard—D. L. Frontenac Co., Ont.

It is peculiar that a number of calves should be affected in this manner. I suspect must be some local cause. Are you sure that they were kept bedded and did not have to lie on hard floors? If you can find any local cause, remove it. Get a liniment made of four drams each of iodine and iodide of potassium and four ounces each of alcohol and glycerine, and rub a little well into the enlargements once daily.

Heifer Fails to Conceive

I HAVE a heifer that has been bred twice. After each service she strained severely trying to cast. She was kept stable all the time and put to pasture next day. She is not too fat, but is in good condition. What would you advise?—M. J. A. Grey Co., Ont.

There are many things which operate to cause sterility. Many of them are not removable. The most common removable cause is what is called "Closure of the O.S.," that is, the opening into the womb is closed. When next in oestrus, oil hand and arm and insert into the vagina until the fingers come in contact with the neck of the womb. Then, with a rotary motion of the finger, dilate the opening until the finger will pass readily into the womb. In some cases the finger has not sufficient power, and it is necessary to get a veterinarian to operate. After operating, lead her to the male and breed her. One service is better than more. Make arrangements with the owner of the male to leave her in a comfortable box stall at his place for at least two days after having bred, and then lead her quietly home.

Removing Ticks From Lambs

WHAT is a good dip for removing ticks from lambs? When a lamb is dipped, should all the body except the end of the nose be immersed? How long should it be kept in the dip?—J.M.W., Hastings Co., Ont.

Any of the standard sheep dips will be found satisfactory, if directions are carefully followed. Lambs should be put into the dip, all parts excepting the head, remaining there for at least one minute.

Hogs like to wallow in the mud, but it does not necessarily follow that a hog wallow is a good thing to have. Lots of shade is to be preferred.

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We supply cans, both small and large, and do all that any other reliable firm can do—and then some.

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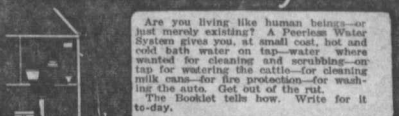
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Are you living like human beings—or just merely existing? A Deerless Water System gives you, at small cost, hot and cold bath water on tap—water where wanted for cleaning and scrubbing—on tap for watering the cattle—for cleaning milk cans—for fire protection—for washing the auto. Get out of the rut. The Booklet tells how. Write for it to-day.

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# Market Review and Forecast

**TORONTO, July 10.** — "Commercial conditions in Canada during the past six months have shown a remarkable improvement over any similar period during the previous two years," says the annual report of the Department of Agriculture. This is due to a large extent to the large proportion of our industries being in operation and to the high wages that are being paid in Western Canada last year's bumper crop did much to make conditions easier. According to authoritative reports from the rest of the country, crop conditions are generally good this year also. While growth has been slow, the crop is well rooted and steady.

One feature of the market here during the week has been an improvement in the commercial horse trade, representatives being here from both eastern and western Canada. Two loads were shipped to Saskatchewan, Canadian, French and Italian army officials are also in the field.

### GRAINS.

Wheat, No. 1, Northern, bar port, \$1.20; No. 2, \$1.19; No. 3, \$1.18; Ontario wheat, No. 1, commercial, car lot, \$1.20; No. 2, \$1.19; No. 3, \$1.18; No. 4, \$1.17; No. 5, \$1.16; No. 6, \$1.15; No. 7, \$1.14; No. 8, \$1.13; No. 9, \$1.12; No. 10, \$1.11; No. 11, \$1.10; No. 12, \$1.09; No. 13, \$1.08; No. 14, \$1.07; No. 15, \$1.06; No. 16, \$1.05; No. 17, \$1.04; No. 18, \$1.03; No. 19, \$1.02; No. 20, \$1.01; No. 21, \$1.00; No. 22, \$0.99; No. 23, \$0.98; No. 24, \$0.97; No. 25, \$0.96; No. 26, \$0.95; No. 27, \$0.94; No. 28, \$0.93; No. 29, \$0.92; No. 30, \$0.91; No. 31, \$0.90; No. 32, \$0.89; No. 33, \$0.88; No. 34, \$0.87; No. 35, \$0.86; No. 36, \$0.85; No. 37, \$0.84; No. 38, \$0.83; No. 39, \$0.82; No. 40, \$0.81; No. 41, \$0.80; No. 42, \$0.79; No. 43, \$0.78; No. 44, \$0.77; No. 45, \$0.76; No. 46, \$0.75; No. 47, \$0.74; No. 48, \$0.73; No. 49, \$0.72; No. 50, \$0.71; No. 51, \$0.70; No. 52, \$0.69; No. 53, \$0.68; No. 54, \$0.67; No. 55, \$0.66; No. 56, \$0.65; No. 57, \$0.64; No. 58, \$0.63; No. 59, \$0.62; No. 60, \$0.61; No. 61, \$0.60; No. 62, \$0.59; No. 63, \$0.58; No. 64, \$0.57; No. 65, \$0.56; No. 66, \$0.55; No. 67, \$0.54; No. 68, \$0.53; No. 69, \$0.52; No. 70, \$0.51; No. 71, \$0.50; No. 72, \$0.49; No. 73, \$0.48; No. 74, \$0.47; No. 75, \$0.46; No. 76, \$0.45; No. 77, \$0.44; No. 78, \$0.43; No. 79, \$0.42; No. 80, \$0.41; No. 81, \$0.40; No. 82, \$0.39; No. 83, \$0.38; No. 84, \$0.37; No. 85, \$0.36; No. 86, \$0.35; No. 87, \$0.34; No. 88, \$0.33; No. 89, \$0.32; No. 90, \$0.31; No. 91, \$0.30; No. 92, \$0.29; No. 93, \$0.28; No. 94, \$0.27; No. 95, \$0.26; No. 96, \$0.25; No. 97, \$0.24; No. 98, \$0.23; No. 99, \$0.22; No. 100, \$0.21; No. 101, \$0.20; No. 102, \$0.19; No. 103, \$0.18; No. 104, \$0.17; No. 105, \$0.16; No. 106, \$0.15; No. 107, \$0.14; No. 108, \$0.13; No. 109, \$0.12; No. 110, \$0.11; No. 111, \$0.10; No. 112, \$0.09; No. 113, \$0.08; No. 114, \$0.07; No. 115, \$0.06; No. 116, \$0.05; No. 117, \$0.04; No. 118, \$0.03; No. 119, \$0.02; No. 120, \$0.01.

### MILL FEEDS.

Brn, \$1.30 to \$1.35; shorts, \$2.12 to \$2.17; middlings, \$2.40 to \$2.45; good feed flour, \$1.65 to \$1.69 a bag. At Montreal, fine is quoted \$2.00 to \$2.05; shorts, \$2.80 to \$2.85; middlings, \$2.85 to \$2.90; meal, \$2.70 to \$2.75.

### EGGS AND POULTRY.

Special caddled eggs in cartons, 25c to 30c; candied, extra, 25c to 30c. Poultry: Live, Dressed, Special broilers (14) 30c to 35c; 40c to 45c; 50c to 55c; 60c to 65c; 70c to 75c; 80c to 85c; 90c to 95c; 100c to 110c; 120c to 130c; 140c to 150c; 160c to 170c; 180c to 190c; 200c to 210c; 220c to 230c; 240c to 250c; 260c to 270c; 280c to 290c; 300c to 310c; 320c to 330c; 340c to 350c; 360c to 370c; 380c to 390c; 400c to 410c; 420c to 430c; 440c to 450c; 460c to 470c; 480c to 490c; 500c to 510c; 520c to 530c; 540c to 550c; 560c to 570c; 580c to 590c; 600c to 610c; 620c to 630c; 640c to 650c; 660c to 670c; 680c to 690c; 700c to 710c; 720c to 730c; 740c to 750c; 760c to 770c; 780c to 790c; 800c to 810c; 820c to 830c; 840c to 850c; 860c to 870c; 880c to 890c; 900c to 910c; 920c to 930c; 940c to 950c; 960c to 970c; 980c to 990c; 1000c to 1010c; 1020c to 1030c; 1040c to 1050c; 1060c to 1070c; 1080c to 1090c; 1100c to 1110c; 1120c to 1130c; 1140c to 1150c; 1160c to 1170c; 1180c to 1190c; 1200c to 1210c; 1220c to 1230c; 1240c to 1250c; 1260c to 1270c; 1280c to 1290c; 1300c to 1310c; 1320c to 1330c; 1340c to 1350c; 1360c to 1370c; 1380c to 1390c; 1400c to 1410c; 1420c to 1430c; 1440c to 1450c; 1460c to 1470c; 1480c to 1490c; 1500c to 1510c; 1520c to 1530c; 1540c to 1550c; 1560c to 1570c; 1580c to 1590c; 1600c to 1610c; 1620c to 1630c; 1640c to 1650c; 1660c to 1670c; 1680c to 1690c; 1700c to 1710c; 1720c to 1730c; 1740c to 1750c; 1760c to 1770c; 1780c to 1790c; 1800c to 1810c; 1820c to 1830c; 1840c to 1850c; 1860c to 1870c; 1880c to 1890c; 1900c to 1910c; 1920c to 1930c; 1940c to 1950c; 1960c to 1970c; 1980c to 1990c; 2000c to 2010c; 2020c to 2030c; 2040c to 2050c; 2060c to 2070c; 2080c to 2090c; 2100c to 2110c; 2120c to 2130c; 2140c to 2150c; 2160c to 2170c; 2180c to 2190c; 2200c to 2210c; 2220c to 2230c; 2240c to 2250c; 2260c to 2270c; 2280c to 2290c; 2300c to 2310c; 2320c to 2330c; 2340c to 2350c; 2360c to 2370c; 2380c to 2390c; 2400c to 2410c; 2420c to 2430c; 2440c to 2450c; 2460c to 2470c; 2480c to 2490c; 2500c to 2510c; 2520c to 2530c; 2540c to 2550c; 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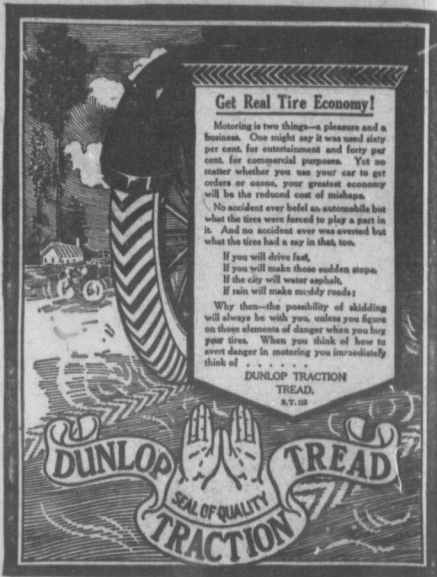
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