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FARM AND DAIRY

RURAL HOME

PETERBORO, ONT.

APRIL 8 1909



A BARN AND SILO SUGGESTIVE OF THE PERMANENCY OF THE DAIRY INDUSTRY

Recurrent shortages in the feed supply has forced many to adopt the silo as a safe and satisfactory means of supplying fodder for their cattle. The silo illustrated, owned by Mr. R. A. Penhale, Eigin Co., Ont., is described on page 13.

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WE WANT AGENTS FOR A FEW UNREPRESENTED DISTRICTS

The Taxation Question

The Evils of the Present System

Editor, Farm and Dairy.—Your correspondent, Mr. H. Gammon, of Brant Co., Ont., is a little off his

farms has always made me advocate "Tax the land, not the improvements." I have four farms of my own, so I come in for my share of taxes. My neighbors have as good land as I. They should fit it up and improve their places and fences. Under the present system of assessment they are not liable to do so.—An Old Farmer, Norfolk Co., Ont.

A SERIOUS CHARGE—CAN IT BE TRUE?

FARM AND DAIRY was informed recently that the farmers of Denmark are able to purchase Canadian mill feeds, from the mills around Kenora and Port Arthur, at lower prices than our Eastern Canadian farmers have to pay for the same feeds. If this is the case it helps to explain how it is that the Danish farmers are able to feed their hogs on our mill feeds and then drive our bacon out of the British market.

A prominent Canadian manufacturer furnished Farm and Dairy with this information. He stated that it cost him more to send a car load of his goods from such a point as Ottawa to St. John, N. B., than it did when he sent the goods through to Liverpool or London, Eng.

THE EXPLANATION.

Our western millers, when they ship their mill feeds to Eastern Canada, have to do so over Canadian lines. The Canadian Pacific is practically the only line they can use. Having no competition to meet, this railway is able to make its own charge for hauling this feed and our Eastern farmers are forced to pay it or give up the use of such feeds.

When, however, our western millers desire to ship their product to the farmers in Denmark they have their choice of several roads. They can ship either by Canadian lines or through the United States, by such ports as Boston and New York. It is claimed that our Canadian railways in order that they may hold this business and meet the competition of the United States roads, have been giving a lower rate on mill feeds sent to Denmark than they have on similar feeds consumed here in Canada.

On receipt of this information, Farm and Dairy wrote to the Canadian Pacific Railway, and asked for a schedule of their rates for handling mill feeds from Kenora to Eastern Canadian points, and, also to Liverpool, Eng., and Copenhagen, Denmark. A reply has been received that dodges the question. We are given the rate asked for to the points in Eastern Canada, but are told to apply to Montreal for the steamship rate from St. John, N.B., to Liverpool and Copenhagen. The latter implies that the Canadian Pacific does not quote a through rate. It is well known that it does.

DR. MILLS IS INVESTIGATING.

Farm and Dairy has now referred the matter to Dr. James Mills, the special representative of our farmers on the Board of Railway Commissioners for Canada. Dr. Mills has promised to conduct an investigation. In a letter we received from him recently Dr. Mills stated that he was finding it necessary to investigate the steamship as well as the railway rates.

It is possible that the railway company may claim that the Board of Railway Commissioners has no power to investigate steamship rates. In such an event it may be difficult for Dr. Mills to gain the needed information. Should such prove to be the case we, as farmers vitally interested in this matter, will have to adopt other means of gaining the required schedule of rates. If Hon. Sydney Fisher sends a deputation of Canadian farmers to Denmark, to investigate conditions surrounding the bacon industry in that country, as he has been asked to do, it will be a simple matter for the members of the Commission to find what the mill feeds, the Danish farmers purchase on this side of the Atlantic, cost them. In the meantime this matter must not be allowed to drop until it has been sifted to the bottom.

base when it comes down to the taxation question. It is the rich man that do not improve their farms. We have a goodly number of them right in this section of Norfolk Co., whose buildings are a disgrace to their farms. The same men have \$20,000 or \$30,000 in the bank or placed out on mortgages. If any one needed a demonstration setting forth the evils of the present system of assessment, he should come to Port Loran. The condition of some of these

In Holland land sells at \$600 to \$72,000 per acre, while here land is rated at \$15 to \$50 an acre. The tenant farmer in Holland pays a rent of \$50 to \$100 an acre, and by intensive culture and great yield cows he makes a living, clears the heavy rental, maintains or increases the fertility of his soil, and lays up some money.

Farm and Dairy is just "O. K."—Andrew Boa, Argenteuil Co., Que.



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Vol. XXVIII.

FOR WEEK ENDING APRIL 8, 1909.

No. 14.

FORMERLY THE CANADIAN DAIRYMAN AND FARMING WORLD

WHO ARE THE BEST DAIRY FARMERS IN ONTARIO?

A Provincial Competition to Determine This Point May be Held in Ontario This Year. In Any Event Several Hundred Dollars in Prizes will be Offered in a Competition to be Held in the Midland Counties of Ontario. Farm and Dairy Arranging the Particulars of What Should Prove an Intensely Interesting Competition

FARM and Dairy has decided to hold a dairy farms competition this year in the counties in Ontario between Hastings and Durham and Victoria and including all three. There will be eight special cash prizes. These prizes will be as follows: First, \$100; second, \$75; third, \$60; fourth, \$50; fifth, \$40; sixth, \$25; seventh, \$15; eighth, \$10. In addition numerous diplomas and medals will be given as prizes as well as special prizes for the best orchards, and the best poultry yards and the most attractive and best arranged homes found on the competing farms.

or a year ago at which Hon. Nelson Monteth, Minister of Agriculture for Ontario, was the chairman.

A PROVINCIAL COMPETITION.

Ever since then Farm and Dairy has been anxious to hold a dairy farms competition open to the Province of Ontario. Two weeks ago a committee of prominent farmers and dairymen met in Toronto, at the invitation of Farm and Dairy, to consider the project. The members of the committee included Messrs. Henry Glendenning, of Manila, who was appointed chairman, and G. A. Gillespie, of Peterboro, representing the Eastern Ontario Dairymen's Association; D. A. Dempsey, of Stratford, and S. R. Wallace, of

The difficulty of raising the money required to defray the expense of judging the competing farms twice was recognized as the greatest obstacle to the holding of a provincial competition. The Ontario and the Dominion Departments of Agriculture have been asked for assistance in this matter. If this assistance is forthcoming then the competition will be made a provincial affair, and next year a portion of the Province of Quebec may be included in the final. If it is not forthcoming then Farm and Dairy will conduct the smaller competition open to the counties of Hastings, Prince Edward, Northumberland, Peterboro, Durham and Victoria. It is expected that it will be possible to announce definitely within

the next couple of weeks what the area included in the competition will be.

A GENEROUS OFFER.

At first it was thought that it might be possible to hold a competition open to all classes of farms. When the details of the proposed competition were explained to Dr. James W. Robertson, Principal of Macdonald College, Quebec, Dr. Robertson gave them his ready approval and very generously offered to contribute \$250 from his private funds to help defray the expenses of the competition. Dr. Robertson, also, offered to assist the competition in every way possible and made a number of valuable suggestions in connection therewith. As the expense that would be involved in the holding of a general competition would be very great it has been decided to confine the competition this year to dairy farms only.

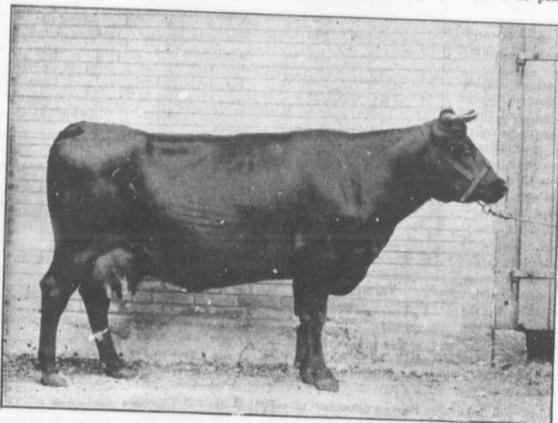
THE SCALE OF POINTS.

The members of the committee checked over very carefully the scale of points used in the competition held two years ago. This scale of points had given such general satisfaction it was not thought advisable to change it except only in one or two particulars. It was decided to offer 1000 points sub-divided as follows.

House 150, viz., plan, finish and approaches 25; lawns 15; garden and orchard 35; interior arrangement 30, sanitation 20, education 25.

Farm Buildings 150, viz., provision and site 25; location 25, condition 20, neatness 20, convenience 25, light and ventilation 25, yard 10.

Live Stock 200, viz., number 40; quality and condition 40, breeding and methods of breeding



A Red Danish Cow—A Breed that Has Made Denmark Famous

The red Danish cow is not pretty, being rather coarse according to our standard. She looks like a good performer, and that is the only qualification by which Danish cows are judged. The Danish farmer is after milk and lots of it. It is well known that he gets it. Records of 10,000 pounds per cow and over for whole herds, are by no means rare in Denmark.

Burgessville, representing the Western Ontario Dairymen's Association, Simpson Rennie, of Toronto, the winner of the last provincial farms competition held in Ontario; Geo. McKenzie, of Thornhill, and D. Duncan, of the Don, the winners in the dairy farms competition held two years ago, R. F. Hicks, of Newtonbrook, and Gordon Gooderham, of Bedford Park. The committee was in session all day.

It was decided to endeavor to hold a competition open to the province. Farm and Dairy agreed to contribute and raise, in a manner approved by the members of the committee, at least \$1500 in cash prizes for the competition as well as numerous special prizes that should bring the value of the prizes offered to about \$3,000.

If at all possible the competition will be extended to include the whole province of Ontario. In such an event the province will be divided into three districts of about equal area and similar prizes, to those mentioned, will be offered in each district and next year a special competition will be held, between the prize winning farms this year, to decide the best farms in the whole province. Whether or not the competition can be made a provincial affair depends upon the support for the competition that is received during the next two or three weeks. Farm and Dairy is willing to guarantee the payment of all the prizes that will be required for the holding of a provincial dairy farms competition. If officials of the Ontario and Dominion Departments of Agriculture can be secured to assist in the judging of the farms, then the competition will be extended over the Province of Ontario except the unorganized districts. In any event a competition will be held in the Midland counties of Ontario already mentioned.

Two years ago, The Canadian Dairyman, which has since been incorporated in Farm and Dairy, held a dairy farms competition open to farmers living within 30 miles of Toronto. The competition was a great success. There were 22 competitors. The farms were judged twice, once in July and once in December. The judges were Messrs. J. H. Grisdale, of the Experimental Farm, Ottawa, and D. Drummond, of the Dominion Department of Agriculture. They gave excellent satisfaction. The five chief prize winners were Messrs. George McKenzie, Thornhill; D. Duncan, Don; D. J. McClure, Churchill; R. M. Lovelace, and J. G. Paterson, Agincourt. The prizes were distributed at a big banquet held a little over

40; feeding 20; poultry 15; horses 30; swine 15. Crops, 200 viz., yield and condition 75; freedom from weeds 75, suitability 50.

Farm Management 150, viz., arrangement of fields 20; rotation 25; ice and water 20; fences ditches, roads, etc., 20; workmanship 25; preservation of manure 20; bookkeeping and records 20.

Machinery 75, viz., supply 25, repair 25, housing 15, character 10. Permanent improvements 75.

PLANS OF THE COMPETITION.

The question of who should be allowed to compete was given careful attention. In the discussion of the question, what constitutes a dairy farmer, it was suggested that farmers whose principal source of revenue is derived from the production of milk, should be considered dairy farmers. Mr. Glendenning pointed out that it is not uncommon for farmers to realize more from their hogs than from their milk. It was decided not to allow any farmers to compete whose farms contain less than 90 acres. The farms may contain any number of acres over 90. Where large farms are entered the entire farm will have to be considered in the competition. Poor land cannot be left out. It was pointed out that as a general rule, the largest farms are not the best kept. It will be left to the discretion of the judges whether or not, in the case of farms containing considerable swamp land, such land shall be included in the competition.

It was decided to advise that a farmer should not be allowed to compete except on the following basis: Farmers with 100 acres of land must have 10 cows; 200 acres of land, 15 cows; 300 acres, 20 cows; and over 300 acres, 25 cows. The competitors must be sending the milk or cream of that number of cows at least to a cheese factory or creamery, or to the city, or making it into butter or cheese.

It was further agreed that competitors should be required, where necessary, to furnish proof that their chief occupation is farming, and that they have been engaged in farming principally for at least five years previous to the competition. The judges will be expected to convince themselves that competitors will pass on this point. Should any case arise where it might seem unfair to admit a competitor the committee or judges will have a right to refuse the entry.

DETAILS OF THE COMPETITION.

Under the heading of farm home, it was decided to include the dwelling house and interior the approaches, surroundings, lawn, and the fruit and vegetable garden. In connection with the house will be considered its suitability to the size of the farm, the economy and convenience of its arrangement, its sanitation and order, and the provisions apparent for agricultural education.

FARM BUILDINGS.

The points for the farm buildings will take into consideration the size of the buildings in proportion to the requirements of the farm and their location, which will include their sanitation and their proper position in relation to the whole farm. Other features of the building considered will be their condition of repair, their neatness and cleanliness, their suitability for the health and comfort of the animals (including light and ventilation) and their convenience as regards economy of labor.

Under the heading of the live stock, which will include horses, cattle, sheep, swine and poultry, will be considered the number kept in proportion to the acreage of the farm, the quality and condition of the animals, including the methods of breeding for improvement, and the methods of summer and winter feeding.

Under the heading of farm crops will be included pastures. These will be judged on the basis (a) of their suitability for the requirements

(Continued on page 9)

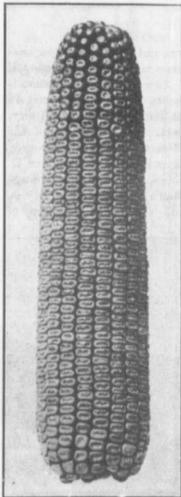
Seed Corn and its Selection

A. McKenny, B.S.A., Secretary Ontario Corn Growers' Association.

It is none too early to test your seed corn to find out whether it will grow or not. The work will be done more carefully now than during the busy season just before planting time. The corn should be laid before you so that you can see every ear and handle it. Some plank resting on barrels or horses make a very convenient table for this purpose. Pick out the ear that suits you best as to size and type, and use it as a model. With this ear in one hand look over the rest, and throw out all ears which do not look almost as good as this model ear. This will in all probability reduce the quantity greatly, but it is important that all ears should be as near one type as possible.

UNIFORM SEED.

Having selected in this rough way it will next be necessary to make a more careful examination of your corn to find out if the seed is uniform. The tips and butts should be well covered, but do not sacrifice other essentials for a good looking ear. The rows should be kept straight and the kernels should be of uniform size in the rows. The different ears should have as near the same size kernels as possible, for no planter can handle both large and small at the same time, and drop a uniform stand.



The Style to Select

The Grand Champion ear of corn at the Corn Growers' Exhibition, Essex

Turn the ear over and remove three kernels in all. If the kernels indicate that they are properly matured, and you want them, place them at the end of the ear for a test in the germination box. Be careful that they do not get mixed with the kernels of the ear lying near.

Having discarded all ears that do not conform to your standard, and show by the examination of the kernels that they are not satisfactory it will be necessary to number each ear for the further test in the germinating box.

Testing each ear separately seems, at first, too large a task to undertake, but experience shows it to be practicable. Take a shallow box about two by three feet in size, put several inches of moist sand or sawdust in the bottom, place over this a cloth which has been ruled off into squares one and one-half inches each way, numbered one, two, three, and so on. Place the kernels from ear No. 1 in square No. 1, from ear No. 2 in square No. 2, and so on with all the ears.

GERMINATION.

Always place the kernel, germ side up and tip towards you, as it makes it easier to see just how strong the germination in each kernel really is. Now place over this a damp cloth, considerably larger than the box. A little sand sprinkled over the kernels will prevent them

sticking to the upper cloth. Cover with one and one-half inches of sand, earth or sawdust. Moistened well and place the box in a warm room where the

Special Numbers Attractive

"Farm and Dairy for Feb. 4th being a special poultry number was particularly spicy. The information of poultry alone given in that number was worth the subscription price, especially to those engaged in the poultry business, to say nothing of the other reading matter it contained. I like the idea of having special numbers at suitable seasons of the year."—S. Montgomey, Huntington Co., Que.

temperature will remain quite constant, not excessive either way. In a few days she sprouts will indicate if the ears saved are worth keeping for seed.

You want a good strong germination of the kernels in squares. If not strong take the ear of the same number as the square and throw it away. For instance, if the kernels in squares No. two, four and six do not give a strong germination, discard ears No. two, four and six. If you have done this carefully you can be reasonably certain that you will have corn that will grow.

It is only by testing each ear of seed corn carefully in this manner that we can hope to get a perfect stand.

Feeding Fat Into Milk

J. G. Mann, Peterboro Co., Ont.

At various times, I have listened to institute lecturers and Government officials who claim that feeding a cow on different feeds will not affect the percentage of fat contained in her milk. Such does not coincide with my experience. Allow me to give some interesting facts concerning this matter as discovered in connection with the cow "Blackie" as shown in the illustration. The re-



"Blackie," a Grade Holstein Cow

This cow was discovered through the medium of the Central Smith Cow Testing Association. She has a record for 19 months of 13,370 pounds of milk, testing 3 per cent. fat, which is equivalent to 395 pounds of fat. Head what her owner, Mr. Gordon Mann, of Peterboro Co., Ont., has to say in the adjoining article about the variation in the per cent. of her fat production.

Results clearly indicate that the percentage of butter fat in the milk is influenced by the grain and fodder fed.

Two years ago, we commenced a system of testing our cows. The cow "Blackie" averaged from a percentage of fat 2.8 for May with a yield of 1530 pounds, 2.8 for July with a yield of 1700 pounds, 3.2 for August with a yield of 1590 pounds, 3 per cent. for September with a yield of 1440 pounds to 2.9 per cent. for October with a yield of 1320 pounds. During the whole of this period she was fed only bran in addition to the grass she got in the pasture.

During 1908, I thought I would try an experiment with this cow, especially. We fed her one part of pea chop and three parts bran and her yield for 17 days in April was 1132 pounds testing 3 per cent., for May 1910 pounds, testing 3.4 per cent., for June 1940 pounds testing 4 per

cent., for July 1640 pounds testing 3 per cent. In August we did not feed her the pea chop but fed her bran and green corn and her yield dropped down to 1440 pounds, testing 2.3 per cent. We then commenced feeding her oat chop with the bran and in September her yield was 1180 pounds testing 3.5 per cent. In October she gave 1150 pounds testing 3.4 per cent.

From these results, it would seem that the percentage of fat in the milk is influenced by what the cow is fed on. The feed might not make any difference on a cow that was continually fed on a balanced ration.

A Study in Construction of Silos

The silo has come to be acknowledged as indispensable on any well appointed dairy farm. Such talk as was common in years gone by about the disadvantages of silage is seldom heard to-day. We have found from ripe experience that cattle are fond of ensilage, that their teeth do not drop out when fed upon this succulent fodder and that it is one of the cheapest and most valuable of fodders that can be used, at least on the dairy farm. Any prejudices that still exist against ensilage are largely the result of inexperience, hearsay, or failure to make a proper use of it. The purpose of this article is to set forth a few points concerning different types of silos, not to open a discussion on the merits or demerits of silos.

The illustrations of the different types of silos appearing on this page were taken by an editorial representative of Farm and Dairy, while in Western Ontario last fall. Silos have long been in use in the locality where these photos were secured. The first ones erected were of the old fashioned kind, built square and placed inside the barn. To build that kind was a very expensive matter as they required a large amount of lumber. Being expensive they were put up by the most progressive dairymen only. With the introduction of the tub or stave type, farmers of more moderate means began to install silos. There, to-day on practically every farm where cows are kept, is the silo.

THE STAVE SILO.

The silo illustrated in figure No. 1 represents a stave silo. It was built eight years ago, on the farm owned by Mr. Wellington Sager in Wentworth Co. It is 14 x 28 feet, there being 24 feet of staves set on a four foot stone wall. Un-



1—A Representative Stave Silo

This silo and the others appearing on this page are described in the adjoining article.

fortunately, we were unable to secure the exact figures giving the cost of this silo. Its approximate cost was about \$75, without the roof. The roof cost an additional \$25. Mr. Sager speaking of

silos said: "The silo on the farm is a good way of wintering stock and is much cheaper than having to feed so much hay and grain."

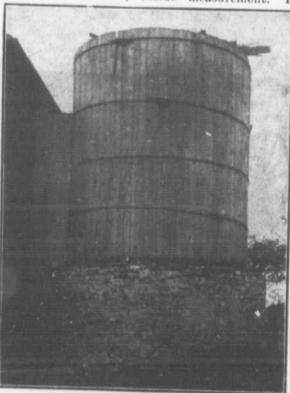
STONE AND STAVES.

Illustration No. 2 shows what might be termed a combination silo. It is built in an embankment at the rear of the barn on a farm in Brant Co. now worked by Mr. C. I. Bray. It consists of 12 feet of stone work, eight feet of which is under ground. The tub at the top is built of chestnut lumber, the staves being 16 feet in length. This silo was erected in 1901. The lumber cost \$16 per M. at the sawmill. Other items of expense were:

Excavation, three men and team, two days	\$ 8.00
Labor getting out stone from creek	10.00
Mason work, laying stone and plastering	24.00
Lumber at mill	24.00
Hauling and dressing lumber	\$ 7.00
Hoops \$10, cement \$4, lime \$4, sand \$3	21.00
Erecting staves	3.00

Total\$97.00

No roof was put on silo except a few old boards to keep out the snow. We were informed that the rain seemed to do the silage no harm and except for the appearance of the silo, the matter of a roof was a needless expense. The silo is 14 feet in diameter, inside measurement. The



2—A Combination Stone and Stave Silo

This silo was built more for utility than for appearance. It has given the best of satisfaction. Read the description of it in the adjoining article.

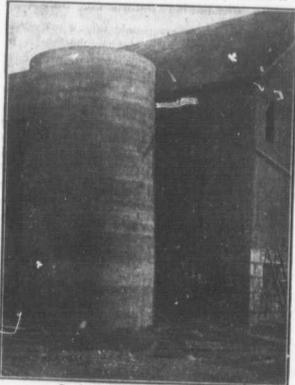
stone wall is built two feet thick, there being plenty of stone available, many of which were large and otherwise in the way. The particular advantage of this type of silo is that any silage left in it till late in the season, or for summer feeding, is in the stone part where it keeps perfectly and does no injury to the wood part of the construction.

THE CEMENT SILO.

A cement silo is illustrated in cut No. 3. This style, although more costly than either of the other two is becoming popular with many. This silo, on the farm owned by Mr. Walter Patten Brant Co., Ont., is 12x30 ft. inside measurement. The wall is one foot in thickness at the bottom and tapers to a thickness of seven inches at the top. The cost of erecting it was \$135.25. The items of expense were:

Cement, 30 blis. costing \$1.80 at factory	\$ 54.00
35 yards gravel at 15 cents	5.25
Wire for binding walls	3.00
Cost of erection about	50.00
Lumber for doors, top, chute, 400 ft. at \$30 a M.	12.00
Carpenter work	11.00
Total	\$135.25

These figures do not include the board of the men or the cost of hauling the cement or gravel. There are six doors in the silo for the convenience of getting out the silage. Mr. Patten assured us that the condition of the silage as used this past winter was the very best. Asked if he



3—A Silo that is Popular with Many

This silo is more costly than the others, but is more durable. The description of it appears in the adjoining article. Would he build a cement in preference to a wooden silo were he to rebuild, he replied, "I have had no experience with wooden silos, therefore I cannot say, I think, however, I would build cement."

The best type of silo for one to erect is in a large measure a matter of choice. Many who have the cheap stave silos claim that they give the best of satisfaction. Those with the more expensive cement silos assure us that they are the only kind to build as when once up they are everlasting; they are also fire proof, and hence are a safe investment. There are advantages and disadvantages with all types; the chief concern is to have a silo.

Many cement silos have failed to give satisfaction owing to failure to provide drainage. The silo should never be constructed without some means of drainage, for, should some immature corn be placed therein, the seepage will ferment and spoil the lower layers of ensilage. A prominent dairyman in Dundas Co., Ont., in giving his experience with silos told us that his cement silo did not give satisfaction as long as it had a tight bottom in it. After providing drainage, it gave better results. Before leaving the subject he assured us that after having three different types of silos he had come to the conclusion that the cheapest was the best and he would advise anyone at least of moderate means to erect the stave silo.

Corn and Alfalfa in Dairying

J. Stonehouse, Ontario Co., Ont.

The keynote of profitable dairying is: Keep only profitable cows and grow the right kind of feed to produce milk cheaply. Corn is the first thing to consider; grow more corn and ensilo it, farmers don't grow enough of corn as a rule. Corn won't make much milk of itself, but it is the best and cheapest base we can have. Corn silage is the most succulent and satisfying winter feed obtainable and if that can be supplemented with alfalfa hay and a little grain and fed to cows that are worth keeping, butter can be made at a profit even at 20c. a lb.

Get into growing alfalfa if you have the right kind of soil, but don't neglect the common clover; they both have their place. The silo is coming to be more properly appreciated and now

that farmers are purchasing gasoline engines in place of windmills, the question of filling the silo is becoming more easy of solution.

Alfalfa For Dairy Cows

By Glenlinning, Ontario Co., Ont.

Farmers at this season should take a retrospective and prospective view of their business. In looking back many Ontario farmers will note times when they suffered from a shortage of feed for their stock. Now is the time for them to make up their minds that such unfavorable conditions should be reduced to a minimum. The feed should be not only abundant, but of the best quality. For the dairy farmer, no feed has been introduced that will yield so much, and be of such a superior quality, as alfalfa. Whether for soiling in the summer or for hay in the winter to be fed in conjunction with corn silage, not only is alfalfa the best feed for dairy cows but it can be fed with equal profit to all stock from the horse to the chickens.

Every farmer who has a piece of land favorable for its growth should sow some alfalfa this year. To the new beginner, it is advisable to sow a small piece only, say an acre or two to ascertain if his land is suitable for its production. The land should be dry, if not naturally underdrained it should be tilled to a depth of three feet. It should have sufficient fall so that the surface water will run off in the winter and spring, so as to prevent ice forming around the crowns of the plants.

The soil should be clean and rich and possess an abundance of lime. A piece of land that has been in roots or corn the previous year is a good place for alfalfa. I prefer to not plow such land but cultivate or disc in the spring about three inches deep, harrow it several times over, so as to make a fine tilth. Secure the best seed possible, free from weed seeds. Test its germinative powers by placing 100 seeds between two pieces of blotting paper. Keep them moist and in a warm place. At the end of two weeks you will be able to tell the percentage of seeds that will grow. Secure from the bacteriological Department of the Agricultural College, Guelph, enough Alfalfa Nitro-culture to treat the seed before sowing. Enough can be secured for 25 cents to treat one bushel of seed.

Sow the seed at the rate of 20 pounds an acre with a nurse crop of barley, sown at the rate of three pecks an acre, sputed in. Sow the alfalfa seed in front of the drill so that it may be covered immediately. We gain two objects by sowing in front of the drill. First the alfalfa seed is thrown in between the two rows of grain, which prevents smothering of the young plants. Secondly, the seeds thus covered at once are kept from the action of the sun which will destroy the bacteria that have been added to the seed in the treatment by the Nitro-culture. Many failures in growing alfalfa, can be traced to a lack of the proper bacteria in the soil.

A Cow's Responsibility

Chas. F. Whitley, Supt. of Cow Testing.

During the last few weeks a great many farmers' meetings have been addressed on the subject of cow testing. Judging from the nature and number of enquiries made there seems to be a rapid awakening to its necessity. This view of the individual responsibility of each single cow in the herd is appealing to the common sense of the business dairyman. It is a matter of great satisfaction that our farmers, generally speaking are now taking this eminently practical survey of cow testing instead of wondering "what is the use of bothering with the test." It is being proved to mean not only increased cash receipts, but, entailing as it always must, the development of

powers of observation and greater attention to system and accuracy, it is exerting a strong educative influence. Mental pleasure and cash profit thus resulting, cow testing can never be deemed an extra or irksome chore; but on the contrary, by giving immeasurably more interest to every day's milking it will immediately relieve what might be considered toilsome drudgery.

THE BEST HERDS.

Invariably by learning that records teach the good, the best paying herds been built up. Records thus form the starting point for the pleasant journey towards larger profits. Over and over again have our dairy farmers discovered something like this: one cow always considered fairly good, on being carefully recorded is found to be returning scarcely any profit; while another, perhaps judged to be only an average cow, is giving almost four times as much profit. This fundamental idea must be reiterated—it is absolutely impossible to gauge the ultimate profit from any cow without constant weighing and testing. When the "average" farmer seizes this fact, and he cannot grasp the idea too quickly both for his own good and the reputation of his district, we may then confidently expect to see several hundred more herds of 15 and 20 cows that will produce over 7000 pounds of milk and 250 pounds

that pull down average yields so tremendously. Fortunately there is a certain amount of contagion in good example, so that even one progressive man in a community will eventually be most backward with the desire for improvement. Let our factory owners, cow makers, and all our dairy farmers pull together. Let there be no hypercritical viewpoint, but a broadminded ambition for the Dominion's reputation as the home of excellent dairy cows. To accomplish this each cow must be made responsible.

Practical Hints on Horse Breeding

R. A. Smith, Brant Co., Ont.

The most saleable horses are of the draught, the carriage or the saddle class. Any one of these are always in demand. It makes little difference what class one goes in for but in each the market demands size, style and finish, also good legs and feet.

To raise A1 horses, one must commence with the best mares obtainable. Mares that will bring from \$200 to \$400 on the market that are perfectly sound and up to the right type are the kind to use. In selecting mares of the smaller breed, always look to having the mare equal to, or a little larger in size, than the sire. As a rule trying to get sires from a small mare and a larger horse results in failure.

We already have too many of that kind—no breed, no size, no good.

In selecting the sire, choose a fair sized horse, compact in every particular. Have him led past you on the walk and with a loose rein. Watch him and see that he holds his head well up in position. Many will be found to drop their heads when given a slack rein. Note his gait. See if he brings his feet far enough ahead to set them down square on their soles. Stand in front and afterwards behind the horse, while in action on the

straightaway and see how he goes, whether wide or close, straight or sideways. Put him through these performances while on a walk, then jog him. Watch his knee, hock and pastern action, which should be free, easy, high and bold. The more style, the better. If these points are brought out in the sire they are usually met with in his offspring.

It was only a few years ago that we were told that the horse would be a thing of the past. The bicycle it was said, would take the place of a horse for pleasure. The fad soon died. Next came the talk of the auto as being the only way to travel. But that was even shorter lived than the bike. As a consequence to-day the horse is in greater demand than ever and will continue to be in demand as long as the right kind are bred.

It Pays to Feed Well

Geo. Rice, Oxford Co., Ont.

Good feeding is the fundamental principle in progressive stock breeding. No matter what breed or kind of animals we are handling, if we want the best results and if we want big results, the animal has got to be well cared for and well fed be it a horse, a hog or a cow.

The dairyman wants cows that give a large milk yield. The actuality as regards milk yields and the possibilities, nay, the actual performance of some cows is so far apart as to give one a great desire to own the cows that give a large milk yield. But, in order that a cow may give a large milk yield she must be handled well, developed for that purpose and developed with the



A High Stepping Carriage Pair, the Delight of their Owner

While the market may be draggy as regards the ordinary run of horses, illustration shows Mr. T. A. Cox, Brant Co., Ont., and his high stepping carriage pair. —Courtesy O. A. G. Review.

of fat; several thousand more cows that will return \$2.50 for every dollar's worth of feed, and that will earn over \$50 net profit each.

The Dairy Division, Ottawa, has organized over 30 new cow testing associations since January on the same liberal terms as before. There is no charge to the farmer for testing; the Department of Agriculture pays the maker at the local factory to make the tests, besides supplying acid, preservative, and all necessary blank record forms for weights of milk perfectly free. Members must agree to weigh the milk of each cow in the herd regularly, at least three days a month, right through the lactation period and take accurate samples of each such milking. It costs little, it does much; it does so much that it is difficult to estimate the full measure of resulting dairy achievement; but a very moderate estimate on a sordid cash basis means an extra hundred dollars a year to any man keeping ten cows, many men have increased their income by \$20 per cow.

This two-fold crusade against poor cows and for the study of the individual members of the herd means that the present poor "average" cow should soon cease to exist. In the general improvement of dairy herds, that is bound to result from this forward movement, the average production per cow will be speedily raised. When every factory reckons among its patrons at least a few men who will do this record work, surely then the average and the poor farmer will be shamed out of keeping those travesties of cows

necessary strength and power. The difference between two or three thousand pounds of milk a year per cow and fifteen to twenty thousand pounds is a very wide one. It is utterly impossible for a cow to produce large milk yields unless she has the stamina and gets the right feed and care.

It would be impossible to feed at a loss a cow giving a large yield of milk, no matter if the feed was expensive, if the dairy products were sold at any reasonable value. For instance, a cow producing 15,000 pounds of milk a year; her milk should sell for from \$150 to \$200, so that it would not be possible for a cow to eat anything like that amount in feed. It is not, however, necessary to feed a cow on an expensive ration. The difference between a 3,000 pound cow and a 15,000 pound cow is very wide. There is an equally wide difference between the cost with which cows can be fed, when the right kind of feed is provided for them. The right kind of feed most suitable for milk production can be grown on almost any farm.

THE MATTER OF FEEDS.

Take those foods which can be produced most easily on a given quantity of land. By good tillage and proper care 16 tons of mangels or sugar beets can be produced easily on an acre. On a quarter of an acre it would give us 8,000 pounds, which is enough to give a cow 40 pounds a day of this feed for 200 days. To feed with this a man should grow some corn for silage purposes. He could grow 15 or 16 tons of this to the acre or enough for a fifth of an acre to feed a cow 30 pounds of silage for 200 days. We can grow enough feed on less than half an acre to feed a cow 40 pounds of mangels and 30 pounds of ensilage for 200 days. If the cow is dry it would be probably better to feed her on 40 pounds of silage and 30 pounds of mangels. Now, if we add to this some straw, we have a fairly good ration. This straw, though not complete in itself is 90 per cent. better than 90 per cent. of the cows throughout the country are fed and this feed, remember, is grown on half an acre.

What excuse then has a man for feeding a cow poorly? Surely it is a short sighted policy to keep cows that produce so little. It is an equally short sighted policy to keep them when their low production is generally caused by their being fed so poorly; and yet a splendid ration can be produced on half an acre and a dry cow would take on flesh and be in good condition if fed nothing else besides this low costing ration. Do not let it be understood, that we do not recommend feeding grain or mill feed with this ration. To heavy milking cows a mixture of oat chop, a little oil cake and bran added to the silage and roots make a ration that cannot be improved upon if the idea is to get the greatest production from the cow and it also furnishes us with the cheapest possible feed we can feed the cow so that we get by providing this proper sort of feed the maximum of yield at the lowest of cost. Now, don't run away with the idea that we are trying to qualify for a mining stock promoter and trying to write up fairy tales, but take a pencil and figure up for yourself if everything stated is not a fact. Why then will people continue to work twice as much land to get half the produce when they can get such grand results by following the proper method?

Exercise For The Dairy Cow

G. P. England, Missisquoi Co., Que.

The laws of nature prescribe that all animals to be in the best condition for their work and to do the best work must have a reasonable amount of exercise. Why many of our teachers make an exception in the care of the dairy cow I have never been able to understand. The dairy cow requires the exercise necessary to maintain

good muscles, the proper use of her legs, as well as the invigorating effect of outdoor air and sunlight.

If in the fall on fine days two or three times a week the herdman makes it a practice of unhitching his cows, they will be quick to take advantage of it and get the proper amount of exercise. I may be told that there will be a decrease in the yield of milk. I have not found this to be the case. If it be, the benefits resulting from better milk, more rugged animals and better health and therefore freedom from disease, will more than compensate for the loss in milk.

Professor Henry in "Feeds and Feeding" 7th edition, page 465, has the following to say concerning exercise: "It is certainly reasonable to hold that the cows cannot maintain the high standard of bodily health and vigor essential to the production of *healthful* milk when she is closely confined in the stable for long periods without opportunity for outdoor air and exercise. "The change affording opportunity to breathe the pure air and drink in the sunshine, as well as to exercise the numbers which have not been called into action while in confinement, and resting those taxed by occupying a forced position in a stall or stanchion."

Care of the Udder

Dr. H. G. Reed, V.S., Halton Co., Ont.

All domestic animals are liable to suffer from "Mammitis," or inflammation of the udder. This disease is also known by the name of garget. The cow, however, is more likely to suffer than any other animal and from the importance of the lactical secretion it is always more or less serious and if not looked after in early stages, it is likely to interfere very much with the usefulness of the animal in the production of milk. The disease is more likely to occur during the first month after calving because during this period the udder is usually in the height of its functional activity occasionally it is met with previous to calving.

CAUSES.

Mammitis is due to a variety of causes. In most newly calved cows (especially in heavy milkers), we find a certain amount of inflammation in the udder due to the great activity of the gland at that time, but it usually quickly subsides as soon as a portion of the milk is removed, which should be done regularly and repeated often enough to prevent the inflammatory action from increasing. Exposure to wet or cold, such as lying on the cold ground or exposure to draughts are predisposing causes. Filthy and poorly ventilated stables will generate a miasma, which is liable to have an injurious effect on the udder.

Too much stimulating food is likely to set up a plethoric condition of the system which has a tendency to produce the disease and it is sometimes produced because of the presence of tubercular deposits in the udder. It may also be produced by mechanical causes such as contusions, wounds, injuries in milking or from blows from the head of the calf while sucking.

TREATMENT.

If taken in the early stages this disease usually yields readily to treatment. A good strong dose of purgative medicine such as a pound or two epsom salts should always be administered. Then heat and moisture should be applied to the udder in the form of fermentation or poultices. A convenient method of doing this is to support the udder with a broad bandage brought up and secured over the loins, four holes having been cut in the bandage through which the teats will protrude. Then stuff cloths wrung out of hot water between the bandages and the udder, the cloths to be renewed as often as necessary to maintain heat and moisture in the parts. In thus poulticing the udder it is a good practice to remove wet cloths at night and replace with wool which

has been heated by placing in a bread pan in the oven which will keep the parts warm over night, the poulticing to be repeated next day if necessary. Poultices often do more harm than good, if allowed to become cold and sodden over night, but the heat of wool will prevent any injurious reaction. This treatment combined with hand rubbing the parts freely and the application of a little oil will generally prove successful in the early stages. If one or more quarters of the udder are badly affected and are very hard and sore, and especially if matter has formed, the dairyman will generally be consulting his best interests by employing a competent veterinary surgeon. And even then there is a danger of the gland being more or less damaged and possibly destroyed. Not infrequently the disease in such advanced stages, will prove fatal.

The Smuts of Grain Crops

J. W. Eastham, B.Sc., O. A. C., Guelph.

The so-called "smut" diseases of grains are all due to minute parasitic plants (fungi) which live in the tissues of the plants they attack, finally producing the familiar black powder masses. The cereal smuts are peculiar in that the disease occurs only on the chaff and developing grain. We shall consider in this article the Loose Smut of Oats, the Stinking Smut of Wheat, and the Loose Smut of Wheat, and in order to get a better understanding of their nature we will first briefly consider the life history of each.

LOOSE SMUT OF OATS.

If we examine with a microscope the black powdery mass which forms on the attached flowers we find that it consists of millions of tiny bodies called spores. These spores are the reproducing bodies of the fungus, corresponding in a way to seeds. They are scattered by the wind and lodge around the developing grain and in the chaff of neighboring plants. When seed grain with adhering spores is sown both germinate together. The result is that a minute fungus thread or "hypha" is produced which penetrates into the delicate tissues of the oat seedling. Once established here the fungus develops into a web of fine threads, living at the expense of the oat plant. As the latter branches or "fillers" a portion of the fungus is usually transformed to each branch and grows with it, always keeping near the tip. Here we find that usually every stalk of an attached plant will show the disease. When the time comes for the plant to produce flowers and seed the fungus develops exceedingly rapidly, grows into the flowers and uses up the food stuffs intended for building up the seed in the production of the enormous numbers of black spores which we know as Smut. We see then the infection of the plant takes place during germination and it has been proved that once it gets beyond this stage it is safe.

STINKING SMUT OF WHEAT.

The life history of the parasite causing this disease is the same as the last but the mass of spores remains enclosed within the attacked grain. Such smutted grains appear plumper than healthy ones and when crushed are seen to be filled with a foul smelling, dark-colored, greasy mass of spores. These are only scattered on the breaking up of the grain in threshing, etc. Stinking smut is more objectionable than loose smut since the spores of the latter are mostly blown away before harvest whilst the infected kernels of the former, if precautions are not taken to remove them, may give their foul smell to the flour.

LOOSE SMUT OF WHEAT.

In this case infection takes place by a spore being carried to a flower. Here it germinates and the fungus takes up its abode inside the young germ of the seed, remaining inactive unless just considered. The treatment for these various smuts will be given next week.

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Field Crop Competitions

Having in view the excellent results obtained in 1907 and 1908 in stimulating a greater interest in the production of better seed grain. Agricultural Societies will again be assisted in the holding of competitions in standing field crop during 1909. Three lots of prizes are offered: First, for the standing field competitions, second, for the sheep exhibit at the Industrial Fair, Toronto, and third, for the best grain from standing field competitions to be held at the winter fairs at Guelph and Ottawa. The regulations follow. Competitions will be limited to one crop, to be selected by the society, which should be the one of "most importance to the farmers of the district. Entries for competition must consist of not less than one acre. Selection must be made from the following crops: Spring, Fall or Goose Wheat, oats, barley, rye, corn, peas, alsike, clover, red clover, potatoes, beans or any other staple crop produced for seed in Ontario.

Competition shall be limited to members of an agricultural society, and the fields entered must not be more than 15 miles from its headquarters. Competitors shall be allowed to make entry in only one society and but one entry can be made by each competitor. Societies desiring to enter this competition must notify the Superintendent not later than the first day of May, and must make not less than ten entries nor more than 25.

INDIVIDUAL ENTRIES.

All individual entries must be forwarded by the secretaries of the societies to J. Lockie Wilson, Superintendent of Agricultural Societies, Parliament Buildings, Toronto, before the first of June, 1909. Societies may, if thought advisable, charge competitors an entry fee of not more than \$50 must be offered in prizes by each society, to be divided as follows: \$15, \$12, \$10, \$8, and \$5. Of the above amount the Ontario Department of Agriculture will contribute \$30. The balance is to be contributed by the society, and this \$20 can be counted as expenditure for agricultural purposes in the yearly financial statement. The Ontario Department of Agriculture will furnish expert judges free of charge.

Large prizes will be offered by the Department for two bushel sacks of grain at both Guelph and Ottawa Winter Fairs, the competition for which will be confined to prize-winners in the Standing Field Crop Competitions. Full particulars will be furnished later to the prize winners.

GRAIN EXHIBIT.

In addition to the above arrangements have been made with the Directors of the Canadian National Exhibition, to be held in Toronto August 28th to September 13th, to donate \$240 in prizes for an exhibit of grain from the fields, the owners of which were awarded prizes in the Standing Field Crop Competitions. For this Sheep Exhibit the Province has been divided into three districts and prizes amounting to \$80 will be awarded to competitors in each of the three divisions mentioned below for the following kinds of grain:

	Wheat	Oats	Barley	Rye
First Prize	.. \$5	\$5	\$5	\$5
Second Prize	.. 5	4	4	4
Third Prize	.. 4	4	4	4
Fourth Prize	.. 3	3	3	3
Fifth Prize	.. 2	2	2	2

Division 1. Includes Muskoka, Parry Sound, Haliburton, Nipissing, Manitowlin, Algoma and other districts in North Ontario.

Division 2. All counties east of York and Simcoe.

Division 3. York, Simcoe and all counties west and south-west of same. Each sheaf entered must contain not less than 1,000 stems and must

be boxed and shipped C. O. D. to the Superintendents, Agricultural Products, Exhibition Park, Toronto, not later than August 20th. All entries for this exhibit must be made to J. Lockie Wilson, Parliament Buildings, Toronto, before August 2nd, 1909.

Raising the Dairy Calf

C. F. Alward, Digby Co., N.S.

There are two ways to get good dairy cows. First, buy them if you can, second, breed them. When one goes to buy another fellow's best cow the owner would indeed be slack in his uppers story, if he would sell her cheap. He wants a fancy price for her, in addition to what she is worth, and justly so. In most cases it is impossible to buy good cows, these are very scarce there. One therefore, we must raise them. One always gets better satisfaction by raising his cows himself. Every farmer has two or three good cows; these are the ones to raise the calves from. As to the breed, one should select, that must depend on one's individual taste, though it should be governed by the breed of cattle most largely raised in the community. By co-operating in this way with one's neighbors it is much better for all. One likes any herd of cattle for the money that is in them, not because they are of a particular breed; and when many of the same kind are to be had in the same district they are worth more money to all. Pure bred sires should always be used as half of the resulting blood is half of the sire. In this way one soon grades up his herd to a high standard.

To raise a calf right is quite a task. It should be fed on whole milk for at least three weeks. One should not be in a hurry to make it drink. Let it get good and cranky and it will soon take its food. In this way there is no need to give the finger or a fortnight. Care must be taken not to overfeed. Many calves are given scours by overfeeding or by feeding sour milk alternately with sweet milk. The calf can be readily taught to eat by having a handful of oatmeal handy as soon as it is through drinking, rubbing it on its nose. The calf should be fed well, and well developed, and kept thrifty from the start. A heifer should be milked as long as possible during her first period of lactation ever, if she does not give much milk. When allowed to dry up at six months she will go dry every time at the same period when a cow. Heifers are very susceptible to education in this respect.

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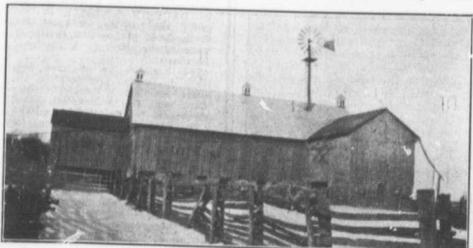
(Continued from page 4).
of the farm; (b) by the varieties grown; (c) the yield according to the nature of the soil, and (d) their freedom from weeds, based on the system of cleaning adopted and the relative labor involved.

FARM MANAGEMENT.
Farm management will include the arrangement of the fields, condition

They create great interest and do much good. Some of the prize farms in Ontario would make the best farms in Ontario bustle to win.

Local agricultural societies will be invited to offer special prizes for the farms in their districts that enter and stand the highest in the general competition.

As the assistance being asked for from the Departments of Agriculture is light it may be expected that it will be granted and that a provincial



One of the Many Substantial Barns in Durham County, Ont.

The crying need of many barns erected some years ago, is more light and more ventilation. The barn illustrated, owned by Mr. G. Northcott, is a good one. The stables are conveniently arranged and have an excellent water system. They might be improved by installing more and larger windows.

of the fences, roads and ditches, the rotation of the crops (including the method of cultivation and freedom from weeds), preservation and application of manure, convenience of watering supply, ice supply; facilities for caring for milk or cream in cleanly and sanitary conditions and at proper temperatures, business methods (including bookkeeping), milk records of cows (embracing cheese factory and creamery or milk returns), systematic arrangement of farm labor and the rest of production and relative profits.

Under the heading of farm machinery will be considered the completeness of machinery in use in proportion to the requirements of the farm and its state of repair and facilities for housing.

Points offered for permanent improvements will include under-drainage, removal of obstacles to cultivation, preservation of timber and the planting of trees.

In drafting the details of the competition, the committee were agreed that great care will have to be taken to select the very best men possible as judges. It was realized that a great deal of the success of the competition will depend on the ability of the judges and the discretion they use in judging the farmers. It was felt that more emphasis should be laid on the results a man was showing from his farm, in proportion to its size, than upon the size and condition of the farm. Any interesting competitors will obtain from the committee, a general idea of the points the judges will be expected to take into consideration when making their awards.

NOTES.

Successful competitors will be required, when asked to do so by the judges, to furnish essays on any two features of their farm work that may be called for. These, however, will not be counted in the awarding of prizes.

The competition will be restricted to practical farmers. Fancy farmers will be excluded.

To assist in defraying the expenses of the competition, each will be very heavy, a nominal entry fee of two dollars will be charged.

Good farms competitions are held every year in the province of Quebec by the Department of Agriculture.

farms competition will be held. As soon as definite word has been received it will be announced in Farm and Dairy.

Tell your neighbors about the competition and watch Farm and Dairy for further announcements. All who so desire are invited to contribute to the prize list. It is believed that this competition will create much interest and accomplish great good.

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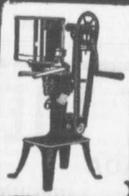
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When you skim by hand the calves get the cold, tasteless, sour skim milk that has but little life in it. If you haul cold milk to the creamery and take back your portion of the skim milk to feed your calves, it is even worse. In addition to its being stale and lifeless you take grave chances of introducing tuberculosis into your herd.

If you have an I. H. C. Cream Harvester, you separate the milk while it is warm and fresh. The calves, and pigs and chickens get the skim milk before it is stale, cold and sour. A little oil meal added to this appetizing skim milk makes it an ideal food, practically as good as the whole milk.

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HORTICULTURE

Articles on Horticulture

Growers of fruit, flowers and vegetables may find lots of material to interest them in the April issue of THE CANADIAN HORTICULTURIST, the companion paper of Farm and Dairy. For fruit growers, an expert discusses the question of pruning. Some diseases of the peach are described and remedial suggestions are given. Other articles discuss raspberry culture, strawberry growing, fertilizers, spraying, the best varieties to plant and many other reasonable topics. A number of letters from all parts of Canada tell the fruit conditions and news of the provinces.

Vegetable growers will be interested in such articles as "Economizing Space in the Garden," "French Market Gardening," "Controlling Asparagus Beetles," and so forth. Flower and plant lovers will find a wealth of valuable information in articles that deal with sweet pea culture, window boxes, growing fuchsias, chrysanthemum culture, bulb planting, and so forth. One article gives reasonable hints for work in the garden this month.

In this number, THE CANADIAN HORTICULTURIST fully maintains its policy of progressiveness. The issue is an exceptionally good one. As the subscription price is only 60 cents a year or \$1.00 for two years, this magazine should be taken by all persons who are interested in horticulture in any of its branches. THE CANADIAN HORTICULTURIST and Farm and Dairy together will be sent for one year to any address for \$1.20. Address either of these publications at Peterboro.

To have the earliest vegetables start the seed in a hotbed or in a box in the house.

Raspberry Culture

N. E. Mallory, Kent Co., Ont.

A fertile, porous soil with water within five or six feet of the surface might be termed an ideal place for blackcaps; yet, any good fertile soil that is well drained and contains a good amount of humus, properly prepared and cultivated, can be depended upon to produce abundantly.

The blackcaps are largely surface feeders. The roots, therefore, should

The crown of the plant should not be set more than two inches deep with the roots spreading outward and downward. Pack the soil firmly against the roots but not directly over the buds. Give frequent cultivation until about the tenth of August when three bushels of oats per acre should be sown for winter protection.

By the fall of the second year the roots in their search for plant food will be largely below the reach of the



Picking Raspberries on Mr. Mallory's Farm, Kent Co., Ont.

Raspberry Culture, by Mr. Mallory, is dealt with in the adjoining article.

be trained out of the reach of the cultivator. This can to a large extent be accomplished by proper preparation and culture. Spread evenly from ten to twenty tons of stable manure per acre, preferably on a clover sod. Plow about six inches deep and prepare as for an ordinary crop.

Plant as early in spring as conditions permit, setting in rows eight feet apart and four feet in the row or five or six feet apart each way.

cultivator, yet close to the surface. After this manure can be applied with good results.

The first season, nip the tops off the new canes when 18 inches high—the following years, when two and one-half feet high; in early spring, cut the laterals back to about fourteen inches. Cut out the old wood as soon as fruiting is over, thinning to four or five of the strongest canes to the hill.

Red raspberries should receive al-

most the same culture as black-caps. Plant one foot closer each way and five inches deep. Trim only in early spring, cutting the fruiting canes back to three feet.

As a domestic fruit the plum stands high, not only for dessert, but for cooking and canning. Plant a few trees.

Apples are often self-seifer or nearly so, like the Spy. In order to secure cross pollination of two varieties, care must be taken to select those that blossom at the same time.

AUCTION SALE

OF VALUABLE CREAMERY PLANT

Under instructions from the creditors of the Dauphin Creamery and Produce Company, Limited, the lands, buildings and plant of the said company, situate in the Town of Dauphin, in the Province of Manitoba, on the following premises: Lots 19 and 20, in Block registered No. 243, of the Town of Dauphin, will be offered for sale by public auction, at the KING'S HOTEL, at DAUPHIN, aforesaid, on Saturday, the 24th day of April, 1909, at the hour of 3 o'clock in the afternoon, by Mr. S. A. McLean, Auctioneer.

The Assignee is informed that there is in the creamery on the above premises a complete butter plant, and also a complete set of machinery for pasteurizing milk. The property will be offered for sale en bloc or in separate parcels as may be further directed by the creditors.

Terms of sale, one third cash, one third in three months, and balance in six months.

The property will be sold subject to a reserve bid.

Further particulars will be made known at the time of sale, or may be had from

R. C. SPARLING, Assignee, or Messrs. Harvey, Edwards & Bowman, (His Solicitors), Dauphin, Manitoba.

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Write us for full information and a copy of our Number 2 Bulletin on rural telephone construction. All information and estimates furnished free of charge by our engineers.

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We carry a full stock of all kinds of wire and construction material. Ask for price list.

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CANADIAN INDEPENDENT TELEPHONE COMPANY
DUNCAN STREET, TORONTO



WALL TELEPHONE, MAGNETO TYPE

POULTRY YARD

Breeding for Egg Production

W. J. Stevenson, Ontario Co., Ont.
As a breeder for over 35 years, I have had several objects in view, the main one, egg production; the others, size and hardiness, or you might say all the qualities that go to make up the utility of a fowl. In that respect I have had a varied experience. In all our fancy show birds there seems to be but very little attention paid to anything but plumage, type, etc., all of which are necessary to win. When breeding along egg producing lines it requires several years to develop a flock. One must select the best layers and set their eggs; and select from the resulting hatch, a male for mating again.

Too much attention cannot be paid to selecting the male bird. All pullets from his matings partake of the qualities of their sire in every case I care not how good a laying flock you may have, if the male bird is not from selected egg producing strains your pullets will not amount to much as layers.

I have a flock that is the result of many years experimenting. The mother of the flock was secured from a hatch of Buff Rock pullets. As she showed marks of being mixed the owner did not want her, but as she developed extra laying qualities, I determined to use her for breeding. I mated her with a White Wyandotte male, from a laying strain. Their pullets developed into large birds, something of the Columbian Wyandotte type, in feather, weight and shape, etc., each. Some of them are now three years old and are still laying as well as the yearlings. They scarcely ever become broody.

I fully agree with the remarks of Mr. F. C. Eiford, Macdonald College, Que., in March 25 issue of Farm and Dairy regarding developing the flock at home. A little care and forethought in mating will give results. Try it and be convinced. Every flock has a few good layers—try our plan this spring and report results, it will help others. I know Farm and Dairy welcomes all communications to its columns that will benefit its readers.

POULTRY EXCHANGE

TWO CENTS A WORD. CASH WITH ORDER

BUFF ORPINGTONS—Imported stock Mr. Wilkinson's strain, mated w. b. Clark's Pedigree layers, eggs, \$1.00 per 12.—Mrs. Newby, Levington, Ont.

WE WILL GIVE AWAY one setting of eggs of any of the standard breeds of fowls, in return for one year's yearly subscriptions to Farm and Dairy received at \$1 each. There are only 100 settings, so hurry. Address Box 353, Peterboro, Ont.

WHITE WYANDOTTES—Eggs, Pullets and Cockerels for sale from the noted winning strain of J. Logan. Will make winners.—Robert Maitland, Powlers Corners, Ont.

RHODE ISLAND REDS—Eggs for setting from rose and single comb birds. Two pens of each, headed by high scoring birds. One dollar and one fifty per 15 eggs. ROBT. J. LOGAN, North Glastonbury, Ont.

BARRD ROCKS, BUFF ORPINGTONS—Fertile eggs for setting, best \$1 per 12; \$4 per 100.—Wilbur Bennett, Box 28, Peterboro, Ont.

WANTED—Your order for eggs from my Barred Plymouth Rock winners at Toronto, London and Guelph. Correspondence invited.—Leslie Kerns, Freeman, Ont.

EGGS—High-class Rose Comb Brown and Single Comb White Leghorns; \$1.50 per 12.—H. Butherford, Galesburg, Ont.

ROUSEN DUCK EGGS at \$1 for six, or \$2 for 12. These ducks are bred from imported eggs.—J. H. Butherford, Galesburg, Ont.

Seasonable Poultry Notes

J. R. Johnson, Essex Co., Ont.
The time has again come around when to the thrifty farmer's wife comes the problem of how best to take care of the hens or incubator so as to get the most and strongest chickens from the least number of eggs. A few suggestions along these lines may not be out of place and may be of some service to both amateur fanciers and those of more mature experience, not leaving out the busy farmer himself.

Start with your men. This should be done with an eye to the general utility and beauty. What will please some will be disliked by others. Species or kinds of poultry can be divided into three classes, the largest of the many breeds being the Cochins; next comes the Brahma and Orpington, Plymouth Rocks, etc. The former are feathered down the legs, the latter being clean in this respect. Next come the medium weights, in size being about one pound lighter than the larger breed. The Wyandottes are among these, with their various White Partridge, Silver Penciled, Silver Laced, Golden Laced, Columbian, Buff and Black. The Rhode Island Reds also are in this class. The third class is composed of the Leghorns, Browns, Black Buff and White, both single and rose comb.

BREED PURE BIRDS.

We hold no brief for any of the above breeds. They each have merits peculiarly their own. But what we would say is that it pays to breed thoroughly the poultry, both for utility and looks. The utility of cross-bred poultry lay better than pure bred is false. It cannot be proven and is often used as an excuse for not taking the pains to separate them during the breeding season. It takes about two seasons for a farmer to change his stock from mongrels to a pure breed. The best way to do this is to secure 25 of the breed you fancy, about two settings is enough if they are fertile. Next year pen up the pullets by themselves with one of the best cockerels. Set these eggs only and you will in the fall have a flock of hens that will be proud of a year. Can be gained by buying a pen of the breed you fancy from some reliable breeder and hatch the eggs from these.

NEST FOR SETTING HENS.

Get a canned goods box from your grocer—put straw in the bottom—make a puddle of thin mud in a pail. Mix some straw in this, put it in the box and then put in dry straw on top, shaping the nest so that eggs will have a tendency to roll to the centre. The nest is better than the old way of putting a sod in the hole, as the heat of the hen sometimes starts the grass to grow in the sod and she breaks up her nest and eggs trying to get the succulent fibres.

STARTING AN INCUBATOR.

Don't forget to thoroughly wash out your incubator with some creosote preparation. We prefer Zenonolium, which is for sale by all druggists. This disinfects, also gives you stronger chicks by supplying a purer oxygen or air in your machine. Test your thermometer. Let your machine run for 24 hours before putting in the eggs. Keep enough oil in the lamps, air the eggs regularly and if it's a good machine it will hatch you a good percentage of healthy chicks.

Best Winter Layers

Will you please let me know through Farm and Dairy what breed of fowl is supposed to be the best winter layer in the east all round layers.—F. N. R. Hastings Co., Ont.

A definite answer to this question is impossible. Much depends on conditions. My experience has been that one of the American breeds make the best winter layers and the all round bird.—F. C. E.

Double Decked Houses

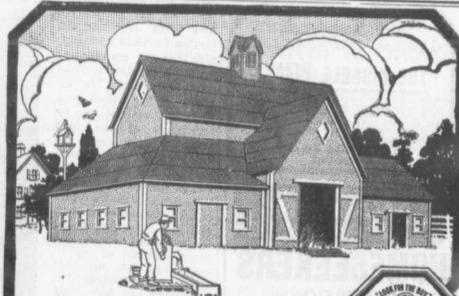
Is it a good idea to build a poultry house 10 to 15 feet in height so as to have room for two houses under the same roof?—G. A. F. Claverton Creek, Ont.
No, double decked houses do not give satisfaction.—F. C. E.

Floor Space for 100 Hens

How much floor space is required for 100 hens? What kind of floor is the best? Does cement make a good floor for hen houses?—F. N. R. Hastings Co., Ont.
From four to six square feet of floor space is required for each hen. For a permanent house there is no better floor than cement.—F. C. E.

Pointers

Never allow fowls to drink stagnant water.
A light breakfast sends the hens to the fields for insects.
Hatch bantams in July and August if you want small sized birds.
Ducks thrive on a sandy soil, turkeys on land which is high and dry.
Common sprits of camphor will, it is claimed, prove a sure cure for lice and mites.
Good, thick buttermilk is about as good as green home to make the chicks grow and the hens lay.



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To produce a high-class milk, cleanliness must be observed in the stable, by the milkers and in caring for the milk. The milk must be aerated, and cooled to below 50 degrees F., and kept at or below this temperature until shipped. At a temperature over 50 F., there is a likelihood of a greater development of bacteria which may be harmful to infants and others of weak digestion. Stringent regulations are in force in many cities in the United States, as well as several in Canada, governing the production and sale of milk and cream in cities. These regulations are a means to an end, to educate the producers to put on the market a wholesome supply of milk and cream, as well as to see that the dealer gives his customers the genuine article.

In many places farmers have fought these regulations for a time, but in the end they had to submit, eventually discovering that the edicts of Health Boards were not so onerous as anticipated. The city inspectors must be a man of tact, of capability and appear as an educative medium instead of as a spy.

The market milk producer has problems to face which are unknown to the creamery or cheese patron, and justly receives a higher remuneration for his product. He is also bringing into being energies and powers that otherwise would be dormant, therefore developing his own life to the advantage of himself and the community in which he resides.

Nova Scotia Agriculture

The annual report for 1908 of the Secretary of Agriculture for Nova Scotia recently to hand is a most creditable one. It reflects great credit upon the secretary, Mr. M. Cumming,

of the Truro Agricultural College, who has been doing valuable work for the farmers down by the sea.

Part two of the report deals especially with dairying. It contains valuable articles on the dairy breeds written by men who know their breed at its best. Problems concerning the dairy are dealt with by well known authorities. A feature of the report that makes it particularly valuable is that part dealing with the diseases of dairy cattle, their causes, symptoms, prevention and treatment by Dr. J. Standish, V.S. The report is full of interest throughout and is well worth of careful perusal.

Concrete Block Silo

Our front corner this week illustrates a silo, built of "Ideal" concrete blocks on the farm of Mr. R. A. Penhale. His farm is located one and a half miles east of St. Thomas on the Edgware Road. A copy of Mr. Penhale's letter to the Ideal Concrete Machinery Co., Ltd., London, Ont., we present herewith. The silo, at the time the photograph was taken, was still in an unfinished state, but has since been finished with a castelate top and presents a magnificent view.

"In my 14 years' experience with ensilage and silos," writes Mr. Penhale, "I have never had better ensilage than we had this year. To say that we are well pleased with our new silo in every respect is to put it very mildly. Although the plaster on the inside of the silo was scarcely dry, only being completed about two days before we commenced to fill, the ensilage was perfect to the very outer edge.

"The silo is 40 feet high, and 16 feet in diameter on the inside. It has a cement floor. The walls have a 2 ft. wide by 1 ft. deep foundation footing upon solid clay. Upon this foundation we laid

10 in. hollow rock-face concrete blocks for about one-half the height (30 ft.), finishing the balance (30 ft.) with 8 in. rock-faced hollow concrete blocks to the top.

"Every third course of blocks was at its best. Problems concerning the dairy are dealt with by well known authorities. A feature of the report that makes it particularly valuable is that part dealing with the diseases of dairy cattle, their causes, symptoms, prevention and treatment by Dr. J. Standish, V.S. The report is full of interest throughout and is well worth of careful perusal.

The amount of material and labor required to erect the silo was about as follows:

60 bbls. Portland Cement, at \$2.10	.....	\$126.00
10 bush. White Lime, at \$26.00	.....	2.60
15 cords Sand and Gravel, at \$3.00	.....	45.00
500 ft. 1/2 in. Round Iron	.....	7.72
250 ft. 7-16 Round Iron	.....	3.35
250 ft. 3-8 in. Round Iron	.....	2.55
12 1/2 days 3 men's labor, at \$7.00	.....	85.75
5 days 2 men scaffolding and plastering at \$5.00	.....	25.00
2400 Blocks, laying up, at 5c,	.....	120.00
Total	.....	\$417.87

Mr. Penhale states that were he to build another silo he would not use 10 in. wide blocks in the lower courses, and the expense of building would therefore be considerably reduced.

In considering the cost of this silo it must be borne in mind that the silo is an ornament to any farm in Canada, whereas the silo built of slush concrete is rough and unattractive in appearance. Furthermore, note that Mr. Penhale says that the ensilage was perfectly good to the outer edge. Many of the solid wall slush concrete silos, during the severe winter of 1907

FREE EGGS

For only two new yearly subscriptions to Farm & Dairy, at \$1 each, we will send a setting of eggs, of any of the standard varieties of fowl. Replenish your flock. Add to it. It will cost you nothing but a little time. New subscriptions to Farm & Dairy are easily obtained.

Sample copies on application.

Circulation Department,
FARM & DAIRY
Peterboro, Ont.

and 1908, did not protect the ensilage from freezing. In some instances the ensilage was frozen for as much as 9 in. around the outer edge of the silo.

It will also be noted that the cost of some of the materials, and of labor in constructing this silo are considerably higher than what they would cost at the present condition of the cement market, and also under the present labor conditions. The price of the Portland cement used is noticeably high.

The cut on the front cover and data were furnished through the courtesy of the Ideal Concrete Machinery Co., Limited, London, Ont.

A club of seven new subscriptions will win you a pure bred pig. Write Circulation Dept., Farm and Dairy, Peterboro, Ont.

How Rural Telephones May Save Lives.

The loss of a few minutes may mean the loss of a life in case of an accident on the farm. Sometimes the accident is so trifling that the patient can, at once, be driven to the doctor's house.

But, suppose the accident is of a serious nature and requires immediate attention, what then? If you haven't a telephone in your home, you have to hitch up your horse and go for a doctor.

With a telephone, you simply call the doctor and he advises what to do until he arrives.

Without the service of a telephone at a vital moment like this, the patient's life might be lost.

It's only when accidents such as these are actually brought home to you that you value the convenience of a telephone.

As we manufacture about ninety per cent. of all telephones used in Canada, don't you think their merits are worth investigating?

A post card with your address, will bring you by return mail full particulars of installing a rural telephone service.

You can build and operate your own telephone line.

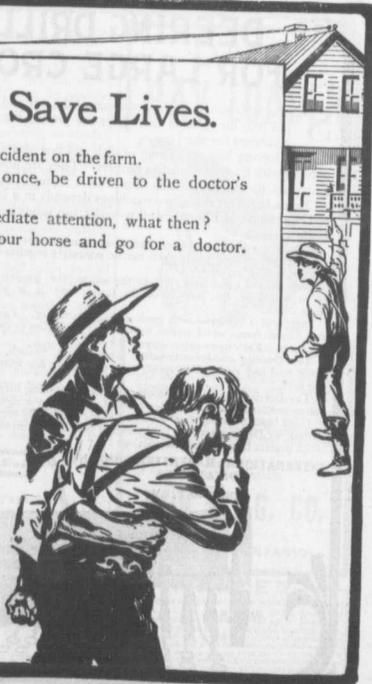
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A Grand Herd of Ayrshires

Stadacona Farm, owned by Mr. Gus Langelier, of Cap Rouge, nine miles west of Quebec, ranks as one of the best live stock farms in the Dominion. Last fall, at Sherbrooke Exhibition, which is the provincial exhibition of Quebec and "open to the world," the Clydesdales from this farm won the silver medal for the best and most numerous parade of draft horses, and "Gartly Edward," the stallion heading the stud, won the gold medal offered by the Association of Clydesdale Breeders of Great Britain and Ireland for the best Clydesdale stallion of the exhibition. As has been usual for the last five or six years, the large imported Yorkshire of the same farm won the diploma for the best herd, the first prize for bacon hogs, and mostly all the prizes—1st, 2nd and 3rd—in all the classes of that section.

The success of the Stadacona Farm Ayrshires was perhaps more remarkable. Besides the silver medal for the best display of dairy cattle, all breeds competing, Mr. Langelier was awarded first prize for the young herd. In this young herd was included *Stadacona Beauty*—26,634—calved Jan. 4th, 1908, who won the 1st prize in her class. The head of the young herd, *Morton Mains Perry*—26,568—imported from Scotland, won 1st prize in his class and is now considered by experts as the best bull of his age not only in the Province of Quebec, but also in the Dominion.

RECORD OF PERFORMANCE.

In the selection of his stock, Mr. Langelier looks for beauty and regularity of form and the fancy points in color, but the consideration which prevails above all others is their milking qualities, and these milking qualities are what characterize most distinctly his herd. Five of his cows have qualified for the Record of Per-

formance and eight more will probably be registered on that record during 1910. It is well known that his famous cow *Almeda*—15,282—was the first entered for the test and the first to qualify, with a milk production of 11,357 lbs., containing 410 lbs. of butter fat. *Stadacona Lily*—19,257—the worthy daughter of *Almeda*, qualified for the Record of Performance, in the two year old class, with a milk production of 6,378 lbs. *Mitile*

shire bull at the universal exhibition of St. Louis, in 1904. His dam, *Loucaire*—18,233—was one of the cows that attained to the best milk record in the famous herd of Mr. J. G. Clark. As regards milking qualities, Sir Oliver's pedigree is peerless.

Mr. Langelier's herdsmanship is an expert. He is Scotch and was trained at Andrew Mitchell's, in Scotland. The stable at Stadacona is one of the most up-to-date in the Dominion. It



Yorkshire Bearer "Summer Hill Victor VIII" [23671]

The property of Gus Langelier, Stadacona Farm, Cap Rouge, Que. Mr. Langelier paid Messrs. D. C. Platt & Son \$250.00 for this boar which, at the Dominion Exhibition, Sherbrooke, 1907, won 1st prize, and headed the first herd.

—11,529—is a remarkable cow that qualified for the Record of Performance with 10,202 lbs. of milk, and *Matchless Beauty*—19,601—followed with 8,844 lbs. *Stadacona Silver Queen* qualified in the two year old class with 6,372 lbs. of milk, and her average test is higher than any cow which has qualified. The following are entered for the test: *Daisy Welland*—21,739—a three year old heifer. She is required to give 6,064 lbs. of milk, and has already given over that amount of milk, though she has till May to run. She is the daughter of *Deary Carlheim*—11,548—who qualified for the Record of Performance with 12,297 lbs. of milk. *Miss Orbia*—20,098—is a three year old heifer. She requires 6,913 lbs. of milk to qualify and has given 6,102 lbs. up to March 1st, though she began her test on June, 1908. This heifer has a remarkable pedigree. She is the daughter of *Isleigh Carlina*—18,280—who gave more milk than required to qualify, but did not calve in time, and the grand daughter of *Daisy of Carlheim*, who qualified with over 12,000 pounds. *Isleigh Miss Sandyland*—22,827—is a daughter of *Miss Sandyland*—8,394—an excellent cow that qualified for the Record of Performance with a production of 8,579 lbs. She is a two year old and is required to give 5,649 lbs. of milk to attain to the record. On March 1st she had given more milk than she requires to qualify, though she has till May to run. *Isleigh Chlorenda*—22,647—is another two year old heifer. She requires 6,950 lbs. of milk to qualify and on March 1st had given 6,803 lbs. with two months yet to add to this record. *Scotland's Best of Dominion*—13,672—and *Burnside Brown Queen*—17,192—are two remarkable cows. They won the 2nd prize at the last Sherbrooke exhibition, in very hot competition, one in the dry class, the other in the regular class.

THE HERD BULL.

Sir Oliver of Woodroff—16,668—the bull heading the herd, is a remarkable animal. He won 1st prize at Quebec in 1906, 1907, 1908 and 1st prize at the Sherbrooke Dominion exhibition in 1907. His sire, *Comrade's Herd of Glenora*—11,966—won the championship as the best Ayr-

is a building 165 x 35 feet, with concrete pavement and mangors. The water is supplied by an aqueduct and comes from springs in the field. As regards light, this stable may be given as a model. There is abundance of storage room for roots, and which over 6,500 bushels were raised on the farm last year. Mr. Langelier has a concrete silo of 100 tons capacity. Another one is to be built in the near future.

Mr. Langelier's stock is remarkable for its strength and vitality. Those in search of fine, strong and healthy stock, and heavy milkers, should have a look at the Stadacona Ayrshires. The Official Herd Book shows that Mr. Langelier sold in Canada, during 1907, more Ayrshires than any other breeder or importer in the Dominion. He shipped some to the British Columbia. For the purpose of encouraging the spread of this excellent breed, he avoids fancy prices and sells at fair and reasonable figures. By July next, it will only be a 20 minutes ride by the Canadian Northern Railway, to reach Stadacona Farm from Quebec.

Quebec Breeder's Methods

Some splendid herds of dairy cattle are kept by farmers living in the vicinity of Howick, Que., which is some 40 miles south-west of the city of Montreal. One of the best known farmers in the section is Mr. Hector Gordon, of Howick, who well knows Ayrshire breeder, at whose place a staff representative of Farm and Dairy recently paid a visit. "The greatest mistake many farmers make," Mr. Gordon, "is in trying to keep many cows on too poor feed and feed their hay and grain. The cows come out thin in the spring and do not do their best until late in the season.

"If these farmers would feed their hay and corn, and feed it liberally including the dry cows, then their cows would be at their best in the summer. I find that I do not make any profit milking cows in the summer. The time is so short between when the cows are turned out and when the dry weather and flies set in, there is only about two months of

DEERING DRILLS FOR LARGE CROPS

So much depends on the condition of the soil and the way seed is put into the ground that drills are among the most important machines on the farm.

The Deering line, consisting of disk and hoe drills, have long been popular with Eastern Canadian farmers. They are prized for the excellent work they do. Each is admittedly a leader in its class.

Choice between these two machines depends in a large degree upon soil conditions. The hoe drill is better for sandy soil and rooky and stony ground.

Both have a double run force feed which insures an even distribution of seed. The amount of seed being sown can be accurately regulated and just the right amount will be deposited.

Both the disks and hoes cut into the soil to the proper depth. The seed is deposited at the bottom of the furrow and it is always covered the right depth.

Each drill is equipped with grass seeding attachment. Each has strong wheels and staunch frame which cannot be wrenched out of line to cause poor working of the feeds. Each has ample clearance for trash.

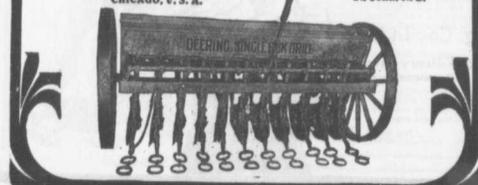
The Deering one-horse broadcast sower, with 50-inch, broad tired wheels, force feed and safety grain spout, seeds dependably any quantity of seed desired per acre.

The Deering line of spring tooth, disk and smoothing harrows, scufflers, cultivators and land rollers are all deserving of a place on the rightly equipped farm.

Local agents throughout Eastern Canada will gladly supply all needed information on Deering seeding machines and tillage implements. Call on them or write nearest branch house for catalog.

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the summer when the cows are pastured at a profit. During the remainder of the summer season, they do not much more than pay for their feed.

LATE SEASONS.

"The seasons seem to be changing. We used to turn our cows out to pasture about May 10th, but now it is generally about June 10th before we can let them out. As far as possible, I like my cows to calve in the fall of the year. When they have plenty of good ensilage, cows will milk more evenly when comfortably housed in the stables in winter with water before them, and when spring comes, they do just as well in June and July as though they had only freshened."

"While the grass is poor and the flies are bothersome, let the cows go dry in August and September, in order that they may freshen again in October."

"In this section, there is no feed that we can depend on like oil-cake, cotton-seed meal and bran. More milk can be secured from them for summer feed than from any other grain on the market. The day is coming when we will have to furnish enough ensilage in the fall to last the cattle all through the year. Stable feeding is found to come before pasturing is the dearest feed we have and because

equal amounts of these grains with the ensilage and straw. Owing to the shortage in the hay crop, very little hay was fed."

The Dairy Cow in Manitoba
C. F. Nizon, Marquette Co., Man.

An expression of our sentiments concerning the old milk cow would cover most of the Old Stock of pioneers of North Western Manitoba. Were we to speak candidly, few, if any of us, would be here to-day if it were not for that old lady, the dairy cow. There was a time in the history of this part of Canada when the early settlers were troubled with summer frosts. Year after year before there was much land under cultivation, the crops were frozen so as to be almost worthless. There was, however, one crop that never failed. It was the produce of the dairy cow. The old cow was our best friend. We often think that a suitable monument to the old lass would not be out of place on some of our public squares.

Dairying is decidedly on the decline in this part of the world. Wild land is about all taken up and it is more trouble to find pasture now than it used to be when the cattle had large range on unsettled land. The pro-

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Get a Catalogue and Study the Famous Deering Harvesting Machines

YOU cannot afford to go into the harvest unprepared. You make a goodly investment of labor and perhaps considerable cash, to produce your crop. You must not permit any part of it to go to waste. You want to avoid delays. You want to get along with the least possible trouble. You want harvesting machines that will do the best work for you. It is the part of wisdom for you to provide yourself in due time with machines that are known to be right.

Deering harvesting machines will enable you to harvest your crop in proper time and to save the whole of it under all conditions. You know this is true because they have proved themselves in a thousand fields.

Deering binders gather all the grain. The adjustments are so nice that it is cut and bound into sheaves. And Deering are dependable machines. Their extreme simplicity insures you that there is little likelihood of their getting out of order when the harvest rush is on. These binders are made in sizes to suit your farming operations. You may have your choice of a 6, 6, 7 or 8-foot cut.

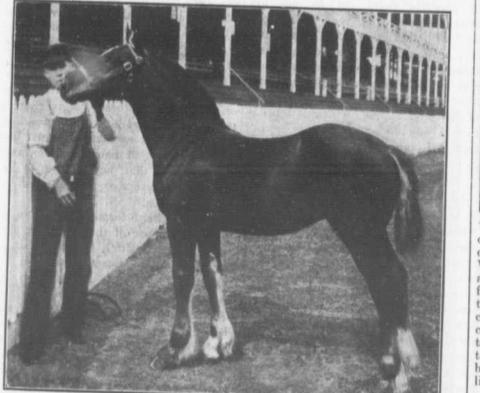
In addition to binders, there is a long line of harvesting machines and tools of Deering make—each the best of its kind. Among them are:

Corn Harvesting Machines, Mowers, Binder Twines, Tedders, Hay Rakes, Side Delivery Rakes and Hay Rollers, Also Disk and Hay Disk, Chalkers, Seeders, Smoothing, Spring Tooth and Disk Harrows, Lawn Mowers, Wagons, Single and Double Engines, Cream Separators, Hay Presses, Saws, Sleighs and Haymow Spreaders.

Call on the local agent, or write to any of the following branch houses for catalogues and particulars on any of the Deering machines:

EASTERN CANADIAN BRANCHES—International Harvester Company of America at Hamilton; London; Montreal; Ottawa; St. John's.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U. S. A.
(Incorporated)

A Good One from Lambton County, Ont.

Good foals as a rule don't simply happen; but rather are the result of much care in the selection of both sire and dam. Patronize the best sire, of the class you want, that is within reach; any extra service fee will be more than returned in the forthcoming progeny. The foal shown is owned by Mr. William Sullivan, Lambton Co., and was photographed by our representative at the Western Fair, London, last autumn.

we can grow more feed on five acres than 40 acres of pasturing will give us in a season like we had last summer.

"Last summer, I required 50 acres to pasture 52 head of stock, and grew enough corn for silage on 17 acres to last the same stock during the seven months of this past winter. I fed bran, cotton seed and oil-cake in the summer as freely both to milk cows and growing stock, as I am feeding it in winter. The stock was fed

sent may be styled, "the period of the passing of the milk cow in this part of Canada." It is a nicer and an easier way to make a living, by raising grain and selling it at the prices that have prevailed the last few years. This is all very well as long as the land holds out, but we firmly believe that a system of grain after highway robbery. Those who live long enough will see the shortightedness of this style of farming.

STAYS WITH THE COW.

We still stay with the cattle partly for the aforementioned reasons. Some claim that our land does not need manure. I am satisfied, however, that the manure hauled direct to the land pays our winter wages. Again, to have a nice little herd of cattle to turn on the stubbles after the harvest, has its effect on the next year's weed crop.

We must have the cattle. To raise cattle and to make them pay the only way is to milk the cows and raise the calves. To keep a cow a whole long year and feed her, say six months, and at the end of that time have a

call worth say, \$10 or \$12, might pay out on the ranches. It won't here. We want just as good or a better calf at the end of the year and \$40 or \$50 from the cow besides. We can obtain this by making butter or by sending the cow to the creamery. The paid feed calf, if given a chance, makes a better steer than the suckling, as the latter goes back at weaning time and bawls for a couple of months, making life miserable around the stable.

STRAIGHT DAIRYING.

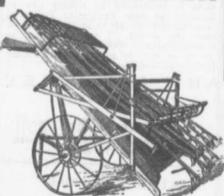
We have tried every way imaginable to make money out of cows, tried letting the calves suck, putting two calves on one cow, etc., always to go back to the old style of straight dairying. The two calf idea proved itself to be too hard on the cow. The cow had to be stall fed to keep her alive the following winter. Another drawback to this practice is that a cow will seldom come in season when raising two calves if they will let her. To keep the calves stabled as some advise, we would rather milk a cow and be done with it. There would be less work and half the cussing.

We keep on an average about 10 cows which average a return of a little better than \$50 a month from the creamery. The cream is shipped by train once a week or when we get a 10 gallon can.

I am very fond of Farm and Dairy, and think it is a good paper for farmers to have. It contains so much helpful reading, and I am always anxious to see what is in the next issue.—Ed. Tenner, Bruce Co., Ont.

Send us the Names of your friends and neighbors who do not take Farm and Dairy, that we may send them sample copies. If the paper helps you, it will help them. You can thus spread the gospel of good farming, and confer upon us a favor that we will appreciate.

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If you want to sell property which you own in the U. S. or Canada, or to buy the Farm and Dairy, such as a **FARM** town property, write us at once for our new successful plan of selling direct, without commission. Give full description of property and lowest price. If you want to buy property of any kind you can't locate, write us, stating what and where you wish to buy and we will send you FREE our magazine of choice locations for sale direct by the owner who no commission is charged.

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FARM AND DAIRY

AND RURAL HOME

Published by The Rural Publishing Company, Limited.

FARM AND DAIRY is published every Thursday. It is the official organ of the British Columbia, Alberta, Saskatchewan and Western Ontario, and Bedford Districts, Quebec, Dairyman's Associations, and of the Canadian Hoteliers, Grocers, and Jersey Cattle Breeders' Associations.

SUBSCRIPTION PRICE, \$10 a year, strictly in advance. Great Britain, \$12 a year. For all countries, except Canada and Great Britain, add 50c for postage. A year's subscription free for a club of two new subscribers.

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4. CHANGE OF ADDRESS.—When a change of address is ordered, both the old and new addresses must be given.

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6. WE INVITE FARMERS to write us on an agricultural topic. We are always glad to receive critical articles.

CIRCULATION STATEMENT.—The paid-in-advance subscriptions to *Farm and Dairy* exceed 8,000. The actual circulation of each issue, including copies of the paper sent subscribers who are slightly in arrears, and sample copies, varies from 8,000 to 9,000.

Subscriptions, unless renewed, are discontinued as they expire. No subscriptions are accepted at less than the full subscription rates. Thus our mailing lists do not contain any duplicate names.

Sworn detailed statements of the circulation of the paper, showing its distribution by countries, any provinces, will be mailed free on request.

OUR PROTECTIVE POLICY We want the readers of *Farm and Dairy* to feel that they can deal with our advertisers with our assurance of our advertisers' reliability. We wish to admit to our columns only the most reliable advertisements. Should any subscriber have cause to be dissatisfied with the treatment he receives from any of our advertisers, we will investigate the circumstances fully. Should we find reason to believe that any of our advertisers are untruthful in any of their claims, we will discontinue immediately the publication of their advertisements. Should the advertiser refuse to retract, we will expose the circumstances warrant. Thus we will not protect our readers, but our reputable advertisers as well. That is necessary to entitle you to the benefits of this Protective Policy which you include in all your letters to advertisers. We will be very glad to hear from *Farm and Dairy*. Complaints should send to us as soon as possible after reason for dissatisfaction has been found.

FARM AND DAIRY

PETERBORO, ONT.

TORONTO OFFICE:
Room 306 Manning Chambers, 72 Queen St. West, Toronto.

EXTEND THE WORK

There still seems to be need for *Farm and Dairy* to advocate the extension of the work of cow testing associations. Evidently some men misconstrue the objects and aims of the Government in this matter. Farmers are invited to become members on remarkably easy terms, no entrance fee, no monthly dues, but merely their promise to weigh and sample each cow's milk regularly right through the full period of lactation. Herein lies the immense advantage of the undertaking. Just an occasional weighing is practically useless as indicative of a cow's annual yield. The total income from milk must be balanced against the year's expenditure. The value of the record increases as it is a permanent index of the production of each individual. More money can be obtained from a prospective buyer when the attractiveness of the cow is supported by her

detailed record. More interest is added to the natural dignity of farm labor when this collective and individual performance is systematically noted. More value accrues to the district and county as the individual excellence of the herd is improved. More benefits will result to the farmer himself as well as to the community than can well be told in a few words. Such work as this is a singular combination of values—educational, commercial and national. It was a happy idea of the Dominion Department of Agriculture to inaugurate the movement, for it is one of immense benefit in strengthening and building up the dairy industry. The nation in the aggregate prospers as the component units prosper. The individual dairy farmer is a most important factor in this calculation.

Farm and Dairy hopes to see a rapid extension of the work. Even supposing the cost to the Department should be doubled, no money could be better spent to ensure good returns. We would like to see more frequent visits of Dominion officials to the farm, the call is highly appreciated, and carefully selected men have better opportunities personally on such occasions than many a crowded convention offers. The movement needs a period of careful assistance, sometimes called nursing.

Valuable aid has been given by other lines of dairy effort, but it is impossible to pay too much attention to this all-important feature. On various occasions we have suggested ways in which the Department can strengthen their work. If every dairy farmer gets started right, if he is helped to make judicious selection of thoroughly good cows, the extra cash return to the farming community, without any extra outlay of capital, and without increasing the number of cows kept, is to be reckoned, not only in thousands, nor in hundreds of thousands, but in many millions of dollars.

SHOULD CONFER

The announcement that the Annual Horse Show that has been held in Toronto for many years, and which has been one of the most successful shows of the kind on the continent, has had to be abandoned this year because of the lack of a suitable building in which to hold it, shows how necessary it is that both the city of Toronto and the Province of Ontario shall unite in providing suitable accommodation for events of this kind. For many years this show was held in the Armouries. During the past two years it was held in the St. Lawrence Arena. Both the Dominion Government and the City of Toronto have decided not to allow these buildings to be used any longer for the holding of such exhibitions.

This means that a proper building should be erected immediately. It would be a mistake, however, to have this building erected on the Toronto Exhibition Grounds, as representatives of the live stock interests recently advocated. They are too far from the centre of the city. The matter should be dealt with during the present year. Either the Toronto

City Council or the Ontario Department of Agriculture should call a meeting of the representatives from the various Associations that are interested in the holding of such shows in Toronto, in order that this question may be discussed in all its aspects.

IT IS WORTH WHILE

We would draw particular attention to the method of selecting seed corn as outlined elsewhere in this issue by Mr. A. McKenny, the Secretary of the newly organized Ontario Corn Growers Association. To the casual observer this method may appear to require a lot of time. Considering the value of a perfect stand of corn as against the inferior stand too frequently obtained, this work must commend itself to all who grow corn.

The time spent in thus testing the seed corn will not compare with the labor required to replant or to "dibble" in seed in the field that otherwise would be only half a crop. Remembering our experience with corn in previous years, let us not get caught again this year with poor seed of low vitality, that can result only in loss. Make sure of a perfect stand this year; anything less means loss of time in cultivation, a half filled silo and a consequent shortage of the feed supply, which latter has such a marked effect on the returns from the dairy.

SHOULD HELP OURSELVES

In the past there has been too great a tendency on the part of farmers, when they desire to raise funds for their Agricultural Societies, or for other similar purposes, to go around with their hats in their hands to the merchants and others in nearby towns and villages, asking for contributions. While there are cases where this can be done without reasonable objection being taken to it, still it often happens that the farmers who do this, leave the impression that they feel that the farmers are too poor to contribute to their own causes and that they expect others to help them out. This places farmers in a humiliating position that they should not occupy.

There are many wealthy farmers throughout the country. They should show a greater public spirit, and do more to help their brother farmers. Our attention was drawn recently to a farmer who has helped his section. We refer to Mr. William Graham, a patron of the Central Smith cheese and butter factory, Peterboro county. Mr. Graham is 78 years old and has lived in Peterboro county all his life. He has been a successful farmer. Some years ago, Mr. Graham donated to the residents of his school section, a building for the holding of public meetings. The building is used for concerts, political meetings, socials, and for other similar gatherings. It is managed by five trustees chosen from the school section, who work for nothing. Vacancies among the trustees are filled by the remaining members. A nominal charge is made for the use of the hall. The money thus derived is devoted to making repairs and keeping the building in good condition. The building is much appreciated

by the residents of the section, and is frequently used.

We venture to say that there are thousands of wealthy farmers in Ontario as well as in the other Provinces, who, if they so desired, might contribute in just such ways as these to the benefit of their fellow farmers. As farmers, we should take a broader view of our calling and be proud to do our part to place it on a higher plane.

MAKE USE OF TRIED SIRES

The greatest improvement in our dairy cattle will not be possible till we make greater use of older sires. It is the fact that many young, untried bulls are being used. This practice of breeding so much from young and immature sires is deplorable. It is the custom with some dairymen not to keep a bull after he is two or three years old. They give it as their reason that the bull that at age becomes more difficult to manage; also, to avoid inbreeding on his get, they send him to the block or dispose of him to the best advantage.

A bull three years of age is just getting old enough to show whether or not he has any value as a breeder. Nothing can be told of a bull's breeding powers until his first crop of calves are matured. It is regrettable that a good bull oftentimes has to go when his usefulness is just beginning, while so many yearlings and two-year-olds that ought never to be brought into service, are allowed to do duty.

Some other farmer could and would make use of that bull you are about to part with. He is probably in the same predicament as you in regard to securing a new sire, so as to avoid inbreeding. Why not arrange to exchange sires? You can get in touch with the other fellow at small cost in various ways, such, for instance, as by making use of the advertising columns of *Farm and Dairy*. Use tried sires only and you will accomplish much greater results.

This issue of *Farm and Dairy* is the largest that has been published since the present management assumed control of the paper a little over a year ago. It also carries the most advertising. During the past year, and particularly during the past few months, *Farm and Dairy* has been making tremendous strides. During the balance of the year, we expect that the paper will continue to improve. Without desiring to boast, we feel safe in saying that we do not know of another farm paper published on the continent for only \$1.00 a year and issued each week that excels *Farm and Dairy*. We hope that our readers will continue to give us the same loyal support in the future as they have during the past fourteen months.

From information secured from seed merchants and local dealers there is considerable trading among farmers with low grade clover and grass seed that cannot be handled by seedsmen under the Seed Control Act. This practice defeats the object of the

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Seed Control Act, which is especially designed to protect farmers from weed seed contamination. We should be careful of the seed we secure in this way and make sure that it is good enough at least to measure up to the standard set by the Act.

Saskatchewan Winter Fair

Many hundreds of farmers attended the Saskatchewan Provincial Winter Fair, held at Regina, from March 23rd to 26th. It was the fourth annual provincial winter fair of the province, and truly enough it was a farmers' carnival. By the numbers and quality of the exhibits, and also the record attendance right from the opening day, it was quite evident that it was possible to interest farmers in the affairs of their vocation without the aid of outside attractions of doubtful merit.

The main activities of the fair consisted of a fat stock show, horse show, stock judging contests, and an ample programme of lectures, addresses and demonstrations. The latter occupied the mornings and evenings, while the judging was done in the afternoons.

Entries in all classes were greatly in excess of those of last year. Clydesdales predominated among the horses, Shorthorns among the cattle, Yorkshires among the swine, and white wyandottes and barred rocks among the poultry.

BREEDERS' MEETING.

The annual meeting of the Saskatchewan Stock Breeders' Association occupied the evening session of the first day, and was held in the city hall. President Sinton's report commented on the complete recovery of the province from the effects of the poor crop of 1907, and the financial stringency. He compared the value of the live stock of the Province of Saskatchewan at the present time, in round numbers, as follows:—Horses, \$46,000,000; cows, \$6,750,000; swine, \$2,000,000, and the total value of all live stock was placed at \$54,750,000. The value of live stock exported from the province in 1908, he figured at \$2,500,000, but against this must be set the importations of cured and preserved meats, which amounted to about \$1,600,000. The greatest need of the province he declared to be some packing industries.

THE JUDGING.

The judging of the sheep, swine and cattle classes attracted considerable attention. Competition among the bacon hogs was keen, and the quality of entries high. Sheep were not so numerous. Entries for fat hives were numerous and of good quality, particularly in the Shorthorn classes.

The grade championship and grand championship of the show went to a grade steer exhibited by James Hook of Carberry, Man. The championship for pure bred fat cattle went to a matronly Shorthorn owned by Brett & Sons of Regina. Other Shorthorn men who won prizes were George Kinnon of Cottonwood, Caswell of Saskatoon, and J. Donelas, of Regina.

The Herefords and Angus breeds were well represented, either in point of numbers or quality. Professor Peters, of Manitoba Agricultural College, and W. J. Rutherford, Deputy Commissioner of Agriculture, judged the cattle, while Prof. Gaumnitz, of St. Anthony Park, Minn., gave good satisfaction with his work in the sheep and swine classes.

HORSES A FEATURE.

As was the case at Brandon Fair, the shining of horses at Regina featured the show. The championship classes attracted great attention and large crowds witnessed the plucking of the final awards. Once again Sas-

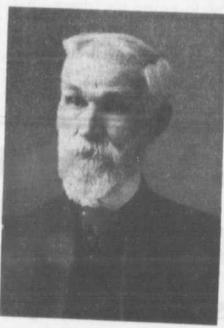
katchewan triumphed when R. H. Taber's Eva's Gem was awarded two championships in the Clydesdale classes, one for the best female, any age, and the other for the best female-bred in Canada. Clydesdale champions, any age, went to Mutch Bros., Duke of Barcheskie, a very typical young Clydesdale, and the championship for Canadian bred stallions went to a youngster owned by J. E. Martin of Condie. Owners of several winners of outstanding quality were: R. H. Taber, Condie, Sask.; A. & G. Mutch, Regina; W. M. Bryce, of Arcola, and Traynor & Sons, Robt Sinton and a number of exhibitors of single animals running them very close.

The Percheron classes brought out some strong entries, Prof. W. J. Rutherford making the awards. In the Clydesdale classes, Thomas McMillan of Scaforth, Ontario, was judge, and his work proved very satisfactory.

The auction sale of live stock which followed the show, was a success, the average price for the bulls which were sold was \$169. Most of the offerings were Shorthorns.—L. A. B.

A Well Known Farmer

Mr. Graham is one of the best known farmers in Peterboro county. He was born in Scotland 78 years ago and settled in Peterboro when he was one and a half years old. He had nine brothers and sisters of whom only



William Graham, Peterboro Co., Ont.

one brother and one sister are now living. When his father settled in Peterboro county, he used to have to walk from Peterboro to Port Hope to make payments on his farm. This money was forwarded to Toronto. One year the man with whom he made the payments died before he remitted the money to Toronto. After that, Mr. Graham's father used to walk all the way from Peterboro to Toronto, a distance of 76 miles, each winter to make the payments on his farm. Mr. Graham has done much to help the cause of Agriculture in his section. Some time ago, he gave a building to his school section in which all public meetings were held. The building is managed by a committee who charge a nominal rent for hall and devote the revenue thus derived to keep it in repair.

A club of seven new subscriptions will win you a pure bred pig. Write Circulation Dept., Farm and Dairy, Peterboro, Ont.

It has been shown conclusively by our best feeders that milk can be produced in larger quantities and more cheaply than is being done on the average farm.—Dairy Instructor Ward, Peterboro District.



STINGY!

The Farmer who gets every piece of labor-saving machinery possible for field work and lets his wife drudge along with cans and crocks in the Dairy is mighty mean. A

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Five Points to Remember

- Remember**—That the dairy season opens almost immediately
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You will save money by sending in your order at once
DO IT TO-DAY

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Dairy Supplies
STRATFORD - - ONT.

Creamery Department

Butter Makers are invited to send contributions to this department to ask questions on matters relating to butter making and to suggest subjects for discussion. Address your letters to the Creamery Department.

The Butter Situation

James Stonehouse, Creamery Instructor, Kingston.

The butter market is sick. A year ago the market was strong and active, now it is weak and languid. What is the cause and wherein lies the remedy? Is the world producing more butter than it needs? No, certainly not. A lack of money in the great consuming centres of the world wherewith to buy, is nearer the truth.

Too much poor butter is another cause of depression. People who eat this class of butter are the people who are short of money and if they don't buy it the stuff accumulates. Those who eat good butter will go without rather than eat the poor stuff if they cannot get what they want. First-class butter is always in demand but the price is regulated by the amount of poor stuff on the market. Substitutes for butter find a more ready sale in times of depression. A couple of concerns for making butter of this class were doing a flourishing business, illegally, in Montreal up to a recent date and thus helping to curtail the sale of poor butter.

The unfortunate thing about these concerns is that they often put up an article which is much more palatable than much of the butter that is on the market and at the same time they can sell it cheaper. It is the opinion of the writer that the Government at Ottawa made a serious mistake by enacting a law prohibiting the renovating of pure butter and

putting it into a palatable form so long as the process could be under proper inspection to see that no foreign fats were mixed with it.

More butter seems to have been made in Canada during the present winter than for several winters past. Food has been more plentiful and the thousands of cows that were farrow a year ago have been coming in all winter and these two factors have caused a large increase.

The demand from Great Britain has been almost nil for the past few months and the markets there are dull and declining. New Zealand and Siberian butter is now off the British market for this year and prices may pick up, but the great trouble is the lack of money among the poorer classes. We need a revival of trade to bring about any substantial improvement. It looks as if the price of butter will be low for the first half of this year at least.

Farmers should not look altogether at the selling end of their business but should take the producing end into consideration as well. Many farmers never stop to consider whether they can cheapen the cost of production or not, and some farmers today are selling butter for less than it costs to produce it, while others are selling at the same price at a profit.

Dairy Season Opening up Well

The dairy season is opening up under more favorable conditions than a year ago, especially the cheese branch of it. There has been no serious scarcity offered, and cows have come through the winter under normal conditions and are in shape to enter upon a season of milk production unhampered by being run down and in this condition, as was the case a year ago, where there was not enough feed to go round. Given warm spring weather and favorable

pasture condition, when the grass comes, they should be able to give a good return to the producer. A good start is important. Last year cows did not have a good start and the many of them remained normal condition as to flesh and vitality, and were in a position to give a good account of themselves at the milk pail.

The present condition of the cheese trade is favorable for a good start. Old stocks were already pretty well cleaned out and it will be clear sailing for the new make when it is ready for market. Prices are satisfactory. A little fadder cheese was made during March but not enough to base any conclusions upon as to what the price will be. All of it was so-called. There will probably be considerable cheese made in April. The low price of butter will cause more cheese to be made than would otherwise be the case were butter selling at the prices of a year ago at this time. The number of dairymen, who prefer to make butter in the early months of the season rather than in the spring, in order to give their calves a start has increased of late years. But the high price of cheese and the low price of butter will have considerable influence and, at least a fair make of cheese may be looked for from the start.

The outlook for butter might be better. Prices to-day are fully 7c. or 8c. a lb. less than they were a year ago. Dealers who have handled butter have lost money. This will make them desire to keep prices down in order to recover their losses. Were the present conditions of the butter market a local one the situation would not be so bad. But nearly every butter producing country is in the same box. The United States, Australia, New Zealand, Argentina, Great Britain and other European countries have had the same experience. It

will, therefore, take some time for the market to recover, and producers may be thankful if prices do not go any lower. For a couple of years prices in Canada have been too high to make it profitable to export butter and consequently our trade with Great Britain has dwindled to a pretty small compass. The general reduction in values may make it possible to extend the export trade considerably by the coming season. That, however, will depend upon conditions abroad as well as at home.

Cream Separator in Dairying

The cream separator is distinctly a modern invention. Up to the middle of the last century no thought had been given to the separation of cream from milk by centrifugal force. About 1850, however, Mr. F. Fuchs, Carlsruhe, Germany, carried on a series of experiments in cream separation by centrifugal force. Ten years later similar experiments were conducted by Albert Fesco, of Berlin, and in 1864 by Antonin Prandth, of Munich. But the practical use of this principle in cream separation was not accomplished till 1877, when Wm. Ledfeldt, of the Province of Brunswick in Germany, after 15 years' hard work, succeeded in producing a separator, which, though imperfect as it was, was compared with later machines, was nevertheless practical.

Since 1877 the manufacture of cream separators has shown marked improvement from year to year. Today the different kinds of machines on the market and known by different names are almost without number. In so far as we are able to judge most of them are capable of doing good work if properly handled and looked after. There are some that stand on a higher plane of efficiency than others. But even those classed as belonging to the lower grades of ma-

How The Farmers Voted

We recently offered a beautiful calendar to every farmer sending us his name and address and telling us how many cows he had and what make of cream separator he owned. We received many thousand replies. Every one of these farmers told us the name of his separator. It was just as though

the farmers had voted to decide which cream separator is best.

Almost Half Say Tubular

More than 41 per cent.—almost one half—of all the separators owned by these many thousand farmers are Tubular separators. There are more than twice as many Tubulars as the three leading "bucket bowl" separators combined. This absolutely proves that farmers like Sharples Tubulars best.

This is the farmers verdict. Farmers are so thoroughly convinced that Tubulars are way ahead of the very best "bucket bowl" machines that they have bought over twice as many Tubulars as they have the three leading "bucket bowl" separators combined.

You will make no mistake in buying a Tubular. The manufacture of Tubulars is one of Canada's leading industries. 1908 sales way ahead of 1907—out of sight of most, if not all, competitors combined. The fine features of Tubulars are making 1909 better yet. Write for catalog No. 253.

The Sharples Separator Co.

Toronto, Ont. Winnipeg, Man.

29 Yrs



Tubular supply cans are low, steady, easy to fill and need not be removed to take the machine apart. The driving gears, and the ball bearing from which the bowl hangs, are enclosed, dust proof, self oiling.



Sharples Tubular Cream Separators run so easily that the medium sizes can be turned by one who is seated.

chines will do fairly good work and effect cleaner skimming than the best gravitation method.

LARGE FACTORY SEPARATORS.

Up to about 1886 the only kind of separators manufactured were the large machines, requiring a steam engine, horse or motor power to operate them. These could be only economically used in creameries and in very large dairies. They were in large demand, however, and soon every creamery worthy of the name had in it a cream separator and received the whole milk from its patrons to be separated at the factory. In fact, to the advent of the large cream separator may be traced the success of the whole milk creamery, which is considered to-day by many authorities as being the only one for making first-class butter on the co-operative plan. It is not our purpose to enter into a discussion of the merits of this system here. Suffices it to say that the trend of things is away from the whole milk creamery. Whether they will or not, dairy authorities must recognize the general adaptation of the cream gathering system of operating creameries and endeavor to make it as effective as possible in the making of good butter.

CARELESS HANDLING OF SEPARATORS.

The carelessness and lack of cleanliness shown in the handling of this machine by the average farmer has brought the farm separator into disrepute in many sections and has prevented its sale in even larger numbers than the business of the past few years shows. This carelessness has shown itself in the bad flavored cream produced, and in separators worn out and unfit for use after two or three years running. A separator properly cared for, should last for years and do as good work at the end of ten years as when first used. It may be said that it is better for the trade not to

have the separator last too long. But is it? A farmer, who invests \$75 or \$100 in a cream separator for skimming the milk from 10 to 15 cows, and finds, after a couple of years, that it will not do the work, is not likely, to invest in another one, and,

edly, it would pay every manufacturer of farm separators to compel his agents not to sell machines to anyone without giving explicit instructions as to how they should be operated and insisting that the machine be thoroughly cleaned after each skimming.

explicit and full instructions how to take care of the cream from that separator. After all, it is the quality of the cream that counts in the manufacture of good butter. No matter how well a separator may do its work the cream may be spoiled afterwards by

careless handling and this may be blamed on the separator, whether deserving or not.

Closely associated with the farm separator is the cream gathering creamery. This system of co-operative butter-making has received many hard knocks, and perhaps, deservedly so. But it fits in with modern ideas of economical butter production better than any other system. If properly carried on, as good butter can be made by the cream gathering plan as by any other. But to accomplish this every one concerned must do his part to make it a success. The cream must be handled and cared for properly and delivered to the creamery before it gets too old. The great saving in hauling, which the cream gathering system affords, as compared with the whole milk creamery, is often overdone. This is one of the great drawbacks to the business. A creamery that gathers once or twice a week loses more on the finished product than would pay the extra expense incurred in gathering three or four times a week or oftener, especially in the warm weather.—J. W. W.

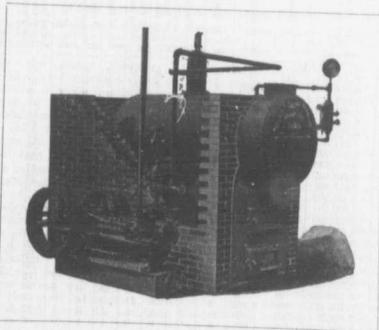


A Friesland, Holland, Co-operative Cheese and Butter Factory

When we bear in mind that the average cheese factory and creamery in Ontario is worth \$5,000, and then look at the splendid co-operative factory in Holland here shown, it makes it a little easier for us to understand how it is that the butter from these foreign countries realizes higher prices in the British market than the butter from Canada. As Canadian farmers and dairymen, we must recognize hereafter that our chief competitors are those located in distant lands. We have got to study their methods carefully. They are far ahead of us in many ways. It means that if we are going to hold our own, we have got to take our coats off and set to work to bring about improvements not only in our cheese factories and creameries, but in the milk production of our cows, in our methods of feeding, and in many other ways.

Moreover, the manufacturer, would be greatly benefited if his agents were able to give each buyer of a separator

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— OF OUR —
Dairy Outfits
IS UNQUESTIONABLE



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BRANTFORD, CANADA

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FOR FACTORY OR FARM

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We are agents in Peterborough and vicinity for the **Simplex Link-Blade Cream Separator**. This is the only Separator made that has the **Self-balancing bowl** and **Self-centering bearings.**

Ask for our New Illustrated Book giving more particulars of this wonderful machine

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and make a specialty of installing Cheese and Butter Plants including THE BAIRD AGITATOR

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The McMillan Ptg. Co. - London

Cheese Department

Makers are invited to send contributions to this department, to ask questions on matters relating to cheesemaking and to suggest subjects for discussion. Address your letters to The Cheese Maker's Department.

The Outlook for Canadian Dairying

J. A. Ruddick, Dairy and Cold Storage Commissioner.

The outlook for Canadian dairying has several aspects which might be discussed with profit, but lack of space will compel us to confine our remarks at this time to some of the most important ones.

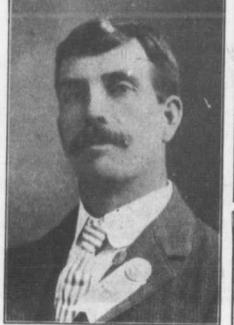
Let us consider first the outlook for production. Alarm has been expressed in some quarters at the apparently stationary condition of the dairy industry, judged by the exports of butter and cheese. There is no actual decline, however, apart from the fact that the last two seasons were very unfavorable climatically for the production of milk. The normal total production of milk is steadily increasing, and the decreased exports are easily accounted for by the increased home consumption which has put an entirely different face on the question during the past five or six years. When the population was nearly stationary or increasing but slowly, the volume of the exports made a fairly accurate guide to the growth of the industry, but the incoming stream of settlers and the more general use of milk and its products have upset all former calculations.

Ontario and Quebec will probably always be the two greatest dairying provinces of the Canadian Dominion still leads in the total dairy production, but Quebec is gaining year by year. In 1907 the total value of creamery butter and cheese produced by provinces in Canada followed: (Census and Statistics Bulletin VII.)

Province	Cheese	Butter	Combined
	lb.	lb.	Value
Alberta	197,911	1,537,697	367,250
Brit. Columbia	30,489	1,383,792	426,719
Manitoba	1,596,592	1,561,898	533,563
New Brunswick	1,326,773	563,163	377,822
Ontario	181,956	198,538	71,113
Nova Scotia	129,650,010	8,805,218	17,255,467
Quebec	69,867,628	31,966,154	15,145,739
Saskatchewan	15,000	182,803	28,549
P. E. Island	2,826,516	358,422	540,749

304,798,583 45,930,294 54,546,701

The provinces of Alberta and Saskatchewan have shown the largest



J. T. Donnelly, High C. O.

Mr. Donnelly won the challenge cup valued at \$150, at the dairy exhibition held in Brandon last January at the time of the Dairyman's Convention. Winning this trophy makes a fitting climax to his 3 years' experience in the cheese business. Miss Mary Morrison, who won the trophy in 1906 gave the champion a close run for his trophy. She was but a fraction of a point below Mr. Donnelly on the score. Had Miss Morrison captured her permanent possession.

percentage of increase during the season of 1908.

THE WESTERN PROVINCES. The production of dairy produce is

growing in all the western provinces. Alberta promises to lead the other western provinces as to the industry, and the indications are that it will assume large proportions in that part of Canada in the next few years.

Dairying is popular in some parts of British Columbia and it is making good progress. There are 18 or 20 creameries turning out quite a large quantity of butter, and British Columbia has the distinction of having the largest output per factory of any province in the Dominion.

The season of 1907 rather favored the dairy industry in Saskatchewan and the output of the creameries was trebled in 1908 as compared with the previous year. There has not been much growth in Manitoba for the last eight or 10 years, but there are indications that more attention is now being given to dairying than for some time past and it would appear as though there might be a considerable increase in the future.

In the settled part of New Ontario are turning their attention to dairying and this part of the province gives promise of future development.

THE MARITIME PROVINCES.

Neither New Brunswick nor Nova Scotia has shown as much growth in recent years as one would expect to find in districts so well adapted for dairying. The creamery and cheese factory output is holding its own in New Brunswick, but has shown a heavy decline in Nova Scotia since the year 1900. This is accounted for, however, by the fact that a very large quantity of milk formerly sent to the factories in New Brunswick into butter on the farms, probably as a result of the travelling dairy work which was so successfully conducted for several years throughout that province. There are signs, however, that the farmers of Nova Scotia are awakening to the importance of the dairy industry and I shall be surprised if there is not a considerable growth in that province in the next few years.

The output of creamery butter and cheese has decreased in Prince Ed-

Syndicate.	Instructor.	No. of factories in group.	No. of full day visits given.	No. of call visits given.	No. of patrons.	No. of persons visited.	No. of cows from which milk given, including those which was obtained.	No. of lbs. of milk delivered to	Average yield of milk per cow for season.	Average percentage of fat in milk from May 1st to Nov. 1st.	No. of lbs. of cheese made from May 1st to Nov. 1st.	No. of lbs. of butter made from May 1st to Nov. 1st.	No. of fermentations (tests in ale).	No. of tests for adulteration.	No. of samples of cultured.	No. of factories investigated.	No. of factories which pasteurized.	No. of factories manufacturing whey butter.	No. of factories paying by test.	No. of consignments (tests in ale) (temperature can be controlled).	No. of new factories built.	No. of new factories in progress in the building on plant.	Estimated improvements for the year, including the value of buildings.	
																								Nov. 1st.
Alexandria	A. McDonell	37	60	151	1,020	30	10,345	95,941,337	2,887	3.70	2,501,976	111	927	2	1	0	0	0	3	0	1	15	83,290	
Almonte	W. J. Ragsdale	41	87	131	1,702	110	17,828	38,584,472	3,317	3.72	3,244,004	308	1,850	3	1	0	0	0	1	0	1	40	8,000	
Belleville	H. Howson	40	94	134	1,987	104	17,793	39,374,872	3,217	3.72	3,244,004	308	1,850	3	1	0	0	0	1	0	1	40	8,000	
Brockville, N.	A. H. Wilson	45	87	246	1,774	107	18,069	31,639,447	2,853	3.54	4,044,222	70	5,421	2	4	0	0	0	6	1	0	35	21,667	
Brockville, N.	P. Nolan	44	87	284	1,694	114	14,927	31,699,493	2,849	3.65	3,179,000	104	3,082	0	0	2	0	0	1	0	0	21	6,175	
Brockville, W.	S. S. Cheatham	42	81	207	1,934	105	14,927	31,699,493	2,849	3.65	3,179,000	104	3,082	0	0	2	0	0	1	0	0	21	6,175	
Campbellford	T. M. Ellis	38	70	249	1,623	105	16,935	31,538,904	3,162	3.50	1,125,581	298	2,970	5	0	0	0	0	0	0	0	0	0	0
Chesterville	R. T. Gray	37	64	194	1,623	105	16,935	31,538,904	3,162	3.50	1,125,581	298	2,970	5	0	0	0	0	0	0	0	0	0	0
Cornwall	J. Buro	36	60	234	1,500	100	13,500	31,699,493	2,849	3.50	2,480,730	81	888	1	2	2	3	0	1	1	1	2	30	6,680
Finch	W. G. Gardiner	38	71	146	1,390	94	11,834	34,774,539	3,014	3.25	3,480,730	100	1,164	15	0	0	0	0	0	0	0	0	0	0
Kempville	C. B. LARRY	48	107	242	1,623	105	16,935	31,538,904	3,162	3.50	1,125,581	298	2,970	5	0	0	0	0	0	0	0	0	0	0
Kingston	H. Bruntnell	38	100	130	1,398	107	15,677	39,829,843	2,546	3.65	3,622,468	49	1,781	6	15	0	0	0	0	0	0	0	0	0
Lindsay	J. B. Lowery	31	40	163	1,170	79	11,839	34,994,970	2,751	3.55	3,405,500	69	2,926	0	0	0	0	0	0	0	0	0	0	0
Madoc	T. J. Cameron	36	60	168	1,077	115	10,449	34,087,700	2,904	3.43	2,990,350	162	540	4	0	0	0	0	0	0	0	0	0	0
Morrisburg	G. W. Norval	40	68	220	1,247	115	10,449	34,087,700	2,904	3.43	2,990,350	162	540	4	0	0	0	0	0	0	0	0	0	0
Napanee	C. W. Bensley	40	68	178	1,398	95	25,935	71,045,296	3,451	3.51	3,402,629	300	1,210	7	4	5	11	3	0	0	0	0	0	0
Ottawa	W. W. Dool	36	60	180	1,077	115	10,449	34,087,700	2,904	3.43	2,990,350	162	540	4	0	0	0	0	0	0	0	0	0	0
Ottawa, E.	I. Villeneuve	38	94	190	1,175	111	10,980	34,994,970	2,751	3.45	2,990,350	162	540	4	0	0	0	0	0	0	0	0	0	0
Ottawa, W.	R. E. Hill	37	45	207	1,700	369	14,935	94,000,000	1,739	3.45	8,928,632	60	1,586	0	0	0	0	0	0	0	0	0	0	0
Peterb.	C. H. Kehin	38	60	285	1,671	105	11,165	30,694,230	2,678	3.70	2,795,405	119	832	2	6	0	0	0	0	0	0	0	0	0
Peterboro	R. W. Ward	34	60	330	1,671	105	11,165	30,694,230	2,678	3.70	2,795,405	119	832	2	6	0	0	0	0	0	0	0	0	0
Pictou	T. E. Whittam	36	40	285	1,100	65	9,465	67,936,091	2,781	3.75	4,495,176	78	1,529	5	5	0	0	0	0	0	0	0	0	0
Plantagenet	J. Charbonneau	46	50	281	1,300	65	10,575	30,790,950	2,996	3.84	2,920,757	107	1,829	10	0	0	0	0	0	0	0	0	0	0
Vankleek Hill	W. G. Graham	47	97	317	307	65	13,170	33,844,502	2,960	3.56	2,323,453	125	1,670	5	3	0	0	0	0	0	0	0	0	0
			911	1,723	4,852	36,801	2,641	340,829	910,168,005	3,700	3.65	65,900,000	3,108	48,225	129	136	26	103	87	47	40	29	400	810,005

A Table Plan that has been Studied. It is a Summary of the Work Accomplished in Eastern Ontario Last Year by the 24 Dairy Instructors

The great improvement that has taken place in the quality of the cheese manufactured in Eastern Ontario, has been due in a large measure to the splendid work of the Dairy Instructors under the direction of Chief Instructor G. G. Kingston. The table here shown was prepared by Chief Instructor P. Nolan, and gives a full and complete picture of the work accomplished by the different instructors last year. The instructors now have authority to compel patrons to keep their milk in sanitary conditions. Last year more than ever before. It will be noticed by the table that the instructors have made 1,723 visits to farms and given 4,852 calls in this line was done by Instructor R. W. Ward of Peterboro, who visited 201 farms and gave 3,307 calls. It is likely that this line of work that exists for an improvement in the average production of the cows of the country. The Campbellford district makes the best showing as the cows of this district average 3,162 lbs. Apparently the K. E. Kingston district has set to work to improve, as it is shown that this district has erected in that section last year, Brockville district also leads all the other sections by a big margin as regards the amount expended for improvements in factory plants. All the figures are interesting.

ward Island since 1900, but the industry is being somewhat reorganised and put on a better basis and if one is to judge by the keen interest which is being displayed by the farmers in educational work in connection with dairying, there is every reason to believe that the industry there will soon show a healthy revival. Dairying on a large scale is a comparatively new thing in the island province and the farmers there are only beginning to learn some of the essentials to success in this industry.

CONDENSED MILK.

There has been considerable growth in the condensed milk industry during the past two years, and this fact should be included when considering the progress of the industry. It would seem as though the production of condensed milk has now reached the point where the supply is nearly, if not quite, equal to the Canadian demand. The value of the condensed milk imported into Canada in 1908 was \$93,992, but we exported the same article to the value of \$42,757. The necessity of looking for a foreign market will probably act as a check on the further growth of this branch of the dairy industry. We should not lose sight of the fact that the consumption of condensed milk is rather abnormal in Canada at present, owing to extensive railway construction through unsettled parts of the country.

The movement for the improvement of dairy herds which is now claiming the attention of many hundreds of Canadian dairymen and is being pro-

duced before being placed on the market.

The outlook for Canadian dairying is encouraging and one of the most hopeful signs is the evidence of a determination to put the industry on a more stable and permanent basis by providing better buildings with improved sanitary surroundings and more attractive appearance.

LEGISLATION GOVERNING FACTORIES AND MAKERS

The Act to regulate the manufacture of dairy products now before the Legislature and which is likely to become law in its present form contains the following important clauses:

3.—In this Act a "creamery" shall mean any place to which is brought the milk or creams for the purpose of being manufactured into butter for public sale, and "cheese factory" shall mean any place to which is brought the milk from the herds of five or more persons for the purpose of being manufactured into cheese for public sale.

4.—On or before the first day of January, 1910, the owner, proprietor or manager of every creamery, cheese factory, milk condensary, milk powder factory, or other establish-

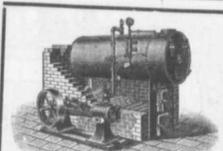
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(Continued on page 22)



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No. 2 Domo Cream Separator J. H. MORROW - BRIGHTON, ONT. Price \$40.00



A Busy Season at the Union Vale Cheese Factory

This factory, though not one of the largest, ranks among the good ones of large dairy factories. The manager of this factory, has several times been exceptionally successful in his business.

noted by the Dairy Division, is bound to have an important effect on the production of milk in the future. The interest in this work is growing fast and dairymen are beginning to see more fully the advantage which many accrue from an intelligent production of this idea.

POSSIBLE INCREASE IN PRODUCTION. The intelligent application of the principles of breeding, feeding and care of dairy stock is capable of increasing the production of milk in Canada by at least 25 per cent. without a single head being added to the cow population. When that result is attained, as I believe it will be, the cost of production will be decreased in almost the same proportion, and this fact should never be overlooked.

A study of the markets for Canadian dairy produce is an important aspect of the outlook for the industry. The most important market for the Canadian dairy produce, in one sense, is to be found in Canada, inasmuch as nearly two-thirds of the total milk produced in Canada is consumed at home, either in the form of milk or one of its products. The export market is, however, of vital importance, because without that outlet for the

probably 35,000,000 lbs. will be about three times as much as that of 1906. This sudden growth is due largely to the fact that the combined factories have turned their milk into cheese instead of butter, owing to the higher returns from cheesemaking. It is hard to say how long this increase may continue, because the country is capable of producing an enormous quantity of dairy produce.

NEW ZEALAND CHEESE.

While the quantity of New Zealand cheese is not yet large enough to prove a very serious menace to the Canadian trade, there are some features of this competition which should command our attention. In the first place, the cheese are all practically cool-cured, because the weather is never as hot as it is here in Canada. Owing to the distance from the market, the cheese are at least two months old before they reach the consumer and therefore complaints about green cheese in New Zealand are not heard in the way they are in reference to Canadian cheese. I do not know of anything which will assist Canadian cheese makers to more easily meet the New Zealand competition than by having the cheese cool cured and sufficiently rip-

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OUR NEW CURD AGITATOR

is giving entire satisfaction both as a labor saver and by improving the cheese made with it.

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BE sure of the foundation of your life. Know why you live as you do. Be ready to give a reason for it. Do not, in such a matter as life, build an opinion or custom on what you guess is true. Make it a matter of certainty and science.

—Thos. King.

Sowing Seeds in Danny

By Nellie L. McClung.

Chapter I.

In her comfortable sitting room Mrs. J. Burton Francis sat, at peace with herself and all mankind. The glory of the short winter afternoon streamed into the room and touched with new warmth and tenderness the face of a Madonna on the wall.

The whole room suggested peace. The quiet elegance of its furnishings, the soft leather-bound books on the table, the dainty face of the occupant, who sat with folded hands looking out of the window, were all in strange contrast to the dreariness of the scene below, where the one long street of the little Manitoba town, piled high with snow, stretched away into the level, white, never-ending prairie. A farmer tried to force his tired horses through the drifts; a little boy with a milk pail plodded bravely from door to door, sometimes laying down his burden to blow his breath on his stinging fingers.

The only sound that disturbed the quiet of the afternoon in Mrs. Francis's sitting room was the regular rub-rub of the wash-board in the kitchen below.

"Mrs. Watson is slow with the washing to-day," Mrs. Francis murmured with a look of concern on her usually placid face. "Possibly she is not well. I will call her and see."

"Mrs. Watson, will you come upstairs, please?" she called from the doorway.

"Mrs. Watson, slow and shambling, came up the stairs and stood in the doorway wiping her face on her apron.

"Is it me ye want, ma'am?" she asked when she had recovered her breath.

"Yes, Mrs. Watson," Mrs. Francis said sweetly. "I thought perhaps you were not feeling well to-day. I have not heard you singing at your work, and the washing seems to have gone slowly. You must be very careful of your health, and not overdo your strength."

"While she was speaking, Mrs. Watson's eyes were busy with the room, the pictures on the wall, the cushions window-seat with its numerous cushions, the warmth and brightness of it all brought a glow to her tired face.

"Yes, ma'am," she said, "thank ye kindly, ma'am. It is very kind of ye to be thinkin', o' the likes of me."

"Oh, we should always think of others, you know," Mrs. Francis replied quickly with her most winning smile, as she seated herself in a rocking chair. "Are the children all well? Dear little Danny, how is he?"

"Oh, the sweet prattle of childhood," said Mrs. Francis clasping "Indade, ma'am, the same Danny is the spettest one of the nine, and him only four come March. It was only this mornin's mornin' that he sez to me, sez he, 'I was comin' away, 'Ma, 'j' ye think she'll give ye pie for your dinner?' Thy and remember the taste of it, won't ye ma, and tell us when ye come," sez he."

Homeless Children for Childless Homes

I cannot thank Farm and Dairy enough for all it has done to help the children's cause during the past year. As a result of the article published recently regarding the Shelter at St. Thomas, Ont., several hundred applications were received, and homes found for six children. The London Society is also receiving applications from your readers and I am sure that the other societies described in Farm and Dairy have likewise been benefited.

It is quite safe to say that between 30 and 40 children who were homeless and friendless have been taken into good families through the instrumentality of Farm and Dairy, and no one can tell how much that means, both to the children, the foster parents, and the community generally.—J. J. Kelso, Superintendent Children's Aid Society, Ontario.

her shapely white hands. "How very interesting it must be to watch their young minds unfolding as the flower! It is nine little ones you have, Mrs. Watson?"

"Yes, nine it is, ma'am. God save us. Teddy will be fourteen on St. Patrick's Day, and all the rest are younger."

"It is a great responsibility to be a mother, isn't it, yet how few there be that think of it," added Mrs. Francis, dreamily.

"Thru for ye, ma'am," Mrs. Watson broke in. "There's my own man, John Watson. That man knows no more of what it means than you do yourself that hasn't one at all at all, the Lord be praised; and him the father of nine."

"I have just been reading a great book by Dr. Ernestus Parker, on 'Motherhood.' It would be a great benefit to both you and your husband."

"Oh, ma'am," Mrs. Watson broke in, hastily. "John is no ward for books and has always had his suspicions o' them since his own mother's great-uncle, William Mulcahey got himself transported durin' his life or good behaviour for havin' one found on him no bigger'n an Almanac, at the time of the riots in Ireland. No, ma'am, John wouldn't trade it at all at all, and he don't know one letter from another, what's more."

"Then if you would read it and explain it to him, it would be so helpful to you both, and so inspiring. It

deals so ably with the problems of child-training. You must be puzzled many times in the training of so many little minds, and Dr. Parker really does throw wonderful light on all the problems that confront mothers. And I am sure the mother of nine must have a great many perplexities."

Yes, Mrs. Watson had a great many perplexities—how to make trousers for four boys out of the one old pair the minister's wife had given her; how to make the memory of the rice-pudding they had on Sunday last all the week; how to work all day and sew at night, and still be brave and patient; how to make little Danny and Bugsey forget they were cold and hungry. Yes, Mrs. Watson had her problems; but they were not the kind Dr. Ernestus Parker had dealt with in his book on "Motherhood."

"But I must not keep you, Mrs. Watson," Mrs. Francis said, as she remembered the washing. "When you go downstairs will you kindly bring me up a small red notebook that you will find on the desk in the library?"

"Yes, ma'am," said Mrs. Watson, and went heavily down the stairs. She found the book and brought it up.

"While she was making the second laborious journey down the softly padded stairs, Mrs. Francis was making an entry in the little red notebook.

Dec. 7, 1908. Talked with one woman to-day re Bursary of Motherhood. Recommended Dr. Parker's book. Believe good one.

Then she closed the book with a satisfied feeling. She was going to have a very full report for her department at the next annual Conference.

On the afternoon that Mrs. Watson had received the uplifting talk on motherhood, and Mrs. Francis had entered it in the little red book, Pearl, Watson, aged twelve, was keeping house at the farm in the week. The day was too cold for even Jimmy to be out, and so all except the three eldest boys were in the kitchen variously engaged. Danny under promise of a story was in the high chair submitting to a thorough going over with soap and water. Patsey, looking up from his self-appointed task of brushing the legs of the stove with the hair-brush, loudly demanded that the story should begin at once.

"Story, is it?" cried Pearl in her writhing as she took the hair-brush from Patsey. "What time have I to be thinkin' of stories and you that full of badness. My heart is bruck wid ye."

"It is good now," Patsey said, penitently, sitting on the wood-bench and tenderly feeling the skinned nose. "I got hurt to-day, mind that, Pearl."

"So ye did, poor bye," said Pearl. "Her wrath all gone," and what will I tell ye about, my beauties?"

"The pink lady where Jimmy brings the milk," said Patsey promptly.

"But it's me that's gettin' combed," wailed Danny. "I should say what ye'd to tell, Pearl."

"Hoo for ye," said Pearl. "How for ye, toney, Patsey. What will I tell about, honey?"

"What Patsey said 'I'd do,'" said Danny with an injured air, "and don't forget the check-out drops she had to take to me, and she sent three o' them to me, and you can have one o' them, Pearl!"

John was cutting wood beside his dwelling when Sam arrived with his trucks, and accused him of obtaining

goods under false pretenses. John was a man of few words and listened attentively to Sam's reasoning. From the little window of the caboose came the discordant wail of a very young infant, and old Sam felt his claims growing more and more shadowy.

John took the pipe from his mouth and spat once at the woodpile. Then jerking his thumb toward the little window, he said briefly:

"Twins. Last night."

Sam Motherwell mounted his trucks and drove away. He knew when he was beaten.

The house had received additions on every side, until it seemed to threaten to run over the edge of the lot, and looked like a section of the wrecking train, with its yellow refrigerator car.

The snow had drifted up to the windows, and entirely over the little lean-to that had been erected at the time that little Danny had added his feeble wall to the general family chorus.

But the smoke curled bravely up from the chimney into the frosty air, and a snug pile of wood by the "cheek of the fire" gave evidence of John's industry, notwithstanding his dislike of the world's best literature.

Inside the floor was swept and the stove was clean and airy of comfort was over all, in spite of the evidence of poverty. A great variety of calendars hung on the wall. Every store in town it seems had sent one this year, last year and the year before. A large poster of the Winnipeg Industrial Exhibition hung in the parlour, and a Massey-Harris self-binder, in full swing, propelled by three stout horses, swept it through a waving field of golden grain, driven by an adipose individual in blue shirt and grass-green overalls. An enlarged picture of John himself glared grimly from the wall, and in the opposite wall, the grimaces of it somewhat relieved by the row of Sunday-school "big cards" that were stuck in around the frame.

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(Continued next week)

What the Farm Home Needs

(Concluded from last week)

The most undesirable features of the farm home to-day, are the primitive ways of living. City people have eliminated a great many of these primitive customs, and women have profited in proportion as the completeness of the change has been effected. But primitive methods still largely remain in country homes to-day; are dissatisfied; and I for one do not blame her.

For one thing, she has become a more refined being. The fibres of her nature are more delicate. The disagreeable conveniences of the old-time isolated farm home have become irksome, distasteful, and out of place as a part of the domicile of this very intense, very nervous and very intellectual creature. What is needed, therefore, is not more wealth or society, or more social activity, but, instead, a new arrangement of home living, house things that shall provide for this noble queen with a dignity and appreciable needs in keeping with her nature and demands. Hence all of these things that mean refinement, a higher plane of living, a closer association with what is going on in the world, will bring her happiness, and fit her for the complete fulfilment of her sphere on the farm or in the town.

EIGHT STEPS IN ADVANCE

In the first place, the country home must be made in the most desirable way.

Second, make over the house so that the bathroom may be provided.

Third, indulge in an occasional trip or visit to nearby and distant points.

Fourth, utilize more freely all intellectual advantages, such as lectures, books, papers and magazines.

Fifth, devote less time to mere manual work, substituting new conveniences and better methods for the old ways of performing household duties.

Sixth, secure a better arranged kitchen and make water and drainage available to it.

Seventh, introduce modern comforts throughout the house, like better lights, up-to-date methods of heating, comfortable furniture and home furnishings.

Eighth, give attention to the home labor problem, so the drudgery work which so frequently falls to the woman's lot, may be taken from her shoulders. This means that churning, washing, ironing, and other common tasks, will be done by modern tools and appliances.

All of these suggestions can be introduced easily, quickly and inexpensively. In many modern farm homes they have been introduced already. I am confident that if these matters are intelligently considered, the results for providing them will be forthcoming.

What if a little sacrifice be necessary; and will be less than the daily sacrifice of mother and daughter in the usual routine as now necessary in the great majority of farm houses. But, gentle reader, you must initiate these things yourself. Your husband may mean well, but, oh, he is so slow! Just start in, figure up the bill, get the plans made, and then spunk up! And never waver. You'll win and every cent will be back to you.

In too many farm homes the plan has been to provide every outside desirable thing, leaving the needs of the home to the very last. A good, comfortable-looking house and a somewhat ramshackle barn may not stand for wealth but it shows the men folk have some respect for the women folk of that home. I never see a big, fine-looking barn, with a small ill-kept house and yard that do not think the man who owns the place is more of a beast than a man; he certainly thinks it more of his live stock than of his wife and children.

The men will gradually improve, but in the meantime let the women who want more comfort and pleasure

—who wish to live on a higher plane—plan some things that will redirect country into such channels as will give the biggest rewards and secure the most for the women folk and secure improvements for which these reforms stand. In some cases two or three years will be required for planning and completing, but what delightful planning it will be! The family that sets about to secure these things, to make over their country home for respectable women to live in, has a great deal of pleasure in store. The simple anticipation of the thing will be worth all it costs.

FAULTS TO BE OVERCOME

But, dear madam, some of the fault is yours, too. How many spare bedrooms have you? How many best dishes and how many best tableware sets and parlor wallpaper, and extra set them aside for the occasional guest and extra company. But who is the best company? Are not husband and children the best company? Abandon these spare bedrooms, open up the parlor windows, and let the family have the use of every part of the house. Don't save your best dishes for company; your husband and children are the best company and are worth more than all other company in the world.

All of this means that the woman herself must have a clear notion of her work. She needs to know how to arrange the kitchen, how to set the table, how to provide for the living room, how to make the home cozy and comfortable. More than this she needs to know how to get the best effect in arranging her hair and clothing; and, in addition, she needs to know a good deal about the real sciences of cooking and household work. Here we reach the real art of housekeeping and of happiness begins in the home.

I am not at all satisfied with the instruction courses as required in our school courses, but if you insist, I will agree to let the teachers have dictation and teaching my daughter about many foolish things, but I do want them to consider some of the more useful things, and inform her that will help her in some studies when she has a home of her own.

Woman is now the pillar of the church, and she can do still more in that direction. But in this work she will be more of a helper than a leader with the country minister and his wife. Nor does the country school offer any peculiar advantage excepting for that small lesson in domestic science, when this work gets under way. Other than these occasional opportunities the country school and country church will not largely enter into improving the farm, excepting through channels of better education for oncoming generations.

GRANGES AND CLUBS

The club has possibilities in rural communities, but its attraction will in from those now prominent in cities and towns. In addition to the club, if available, and should be used to its full limit, every other line of social work and activity, like the granges, the farmers' club, and the gatherings at home. In communities where the grange or the farmers' club exists, in some places these clubs have been developed very far, giving to the men, women and children of the farm even outlet for social growth and pleasure. Community forms of recreation, while still in their infancy, are rich in possibilities. Granges, clubs or granges as units of organizations, could study these problems that reform might follow. Playground associations for country children, picnics and other enterprises that tend

to solidify community interests, will in time be developed, and will do much in way of adding charm, enthusiasm and life to the rural social activities. And back of all are the social affairs of the home; those of the family; the visits of relatives and congenial friends, all of which make glad the hearts and make beautiful the joy of the country home.

After all the country home is a fair, and it will be solved in time. As men grow out of their little conceits, become more mindful of what it is to love and cherish, they will more willingly co-operate and more freely sink their selfish notions; then woman will be more generously enthroned in her place and the farm will possess the delights now denied it, but rightly its own, and the country woman's outlook will open up to all of its beauty and grandeur.

The Upward Look

For unto whomsoever much is given, of him shall be much required.—Luke, 12:48.

There are so many things in this world to attract our attention, we are apt to forget many of the warnings Christ gave us when He was here on earth. When a man has succeeded in making more money than his neighbors, sometimes even when it is only a small amount, how natural it is for him to listen to the voice of pride and to take the glory to himself. Because he has succeeded to the greater extent than others he is apt to think that the credit is all due to his own cleverness.

When a woman rides herself on her home as she compares it with the homes of her neighbors she is in danger of overlooking the warning contained in our text. The girl who puts airs because she is considered good looking, or on account of some other advantage she may possess as well as the young man who is conceited because of superior education or for some similar reason, make the same mistake.

All that we have must account for some day. We must remember that it is God who has permitted us to have it; we must thank Him for trusting us with it and we must endeavor to so use our advantage that our actions and even our thoughts in connection therewith, will be acceptable in God's sight when the day comes in which we will have to show what we have done with our talents.

The man who has wealth should remember the terrible saying of our Lord that a rich man shall hardly enter the kingdom of God. He should realize the danger he is in that his wealth may make him proud and conceited and that whoever exalts himself shall be abased (Luke, 14:11). If he does, he will recognize that the possession of wealth is really a tremendous responsibility and he will endeavor to so use his means that others will be benefited. Every advantage we possess is an added responsibility be it wealth, or superior education, or musical ability or unusual strength. Let us then thank God for his kindness in giving to us and with grateful, happy hearts do our best to let others reap some of the benefit of our good fortune.—J. H. N.

If you rinse a plate with cold water before breaking eggs on it, add to them a pinch of salt, and then start to eat, you are sure that you will have there is a current of air, which will have difficulty in beating them to a froth.

A cup of hot water will relieve a sick stomach. If you cannot take a plain pint in a little lemon juice, or a lump of sugar, or a pinch of salt.

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Milk—Its Care and Food Value

Mrs. J. F. Ineson, Perth Co., Ont.
There is one thing that we can never know too much about — thorough cleanliness from start to finish in handling milk.

We women may not do much of the milking, but we usually have this work under our supervision. We can at least insist that the stables are kept in a clean and sanitary condition and properly ventilated; that the milkers wash their hands before milking and otherwise observe cleanly methods. Also that the milk is cooled as soon as possible after milking. With the cow clean at milking time, the stable clean, the milker clean and clean pails, strainers and other utensils and proper cooling there will not be much trouble with milk. Is it not well that a food product of such value and widespread use can be maintained by the observance of two simple rules? First, cleanliness. Second, keeping at a low temperature.

Much importance has been attached to cleanliness, experts claiming that

one can impure milk sent to a factory would spoil a whole batch of cheese or butter, and I think every neighborhood has some patrons who are neglectful in this matter, but how to reach them is the question.

AS A FOOD.

Milk is a product which we are handling daily, and using continuously. That is why it has come to the average family, either in the raw material or as butter or cheese, does not depend upon milk to furnish a part of the general variety used. Nothing seems so equally wholesome to both old and young as the product of the cow. Therefore, there is more vital question to the people of both town and country than a better understanding of the properties of milk. In order to understand the food value of the milk, we must have a definite knowledge of the composition of the body, and the classes of foods necessary to support life.

Briefly, we require to continually replace in the body, muscle and tissue, fat, material, heat and energy,

and water. For each different substance in the body we have corresponding food material. To build up muscle and tissue, we use proteins, meat for example. For our fat, we eat butter and cream. We get mineral matter in small quantities in all our ordinary foods. Heat and energy are supplied by our starches and sugars in any form. Water we find in all foods. Should any food contain

and so require to be used with other foods to make a balanced ration. A lurch of milk alone would nourish the body a good deal, but a lurch of about ten ounces of bread and a pint of milk, would be both nourishing and satisfying and, I have read, would equal in nutritive value a lurch of soup, meat, potatoes, bread and butter and coffee. It will not fill up the same, but the filling up process is not

He Bought Her Washday Washer.
One of Our Readers Tells How Her Husband Learned What Washday Means to a Woman.

Dear Editor—Most men have no realization of what "wash-day" means to a woman. My husband is one of the best men that ever lived, but he laughed when I asked him one day to get me a 1900 Gravity Washer. I told him it would save me a tubful of clothes in six minutes. "Why, wife," said he, "a washing machine is a luxury. And, besides, there's no better exercise than rubbing clothes on a washboard. It's good for the back. I think we had better wait till we get the farm paid for before footing away money on such new-fangled things as washing machines."

I gave up the idea and kept right on washing in the same old way. I knew John had no notion how hard it was to do the washing for a family of five—three of them little kids. I am not a very strong, and I feel hurt, but I don't know how hard it was to do the washing for a family of five—three of them little kids. I am not a very strong, and I feel hurt, but I don't know how hard it was to do the washing for a family of five—three of them little kids.

John's Busy Days. I suggested to John that he had better get a 1900 Gravity Washer. We couldn't hire a girl for love or money and the situation was desperate.

No one morning he started in. My! what a commotion there was in the kitchen. From my bedroom I occasionally caught glimpses of poor John struggling with that mountain of dirty clothes.

If ever a man had all the "exercises" he wanted, my husband was that man! Couldn't help feeling sorry for him and yet it made me laugh. For I remembered how he made fun of me when I hinted so strongly for a 1900 Gravity Washer. When he finally got the clothes done and out of the line he was just about "all in."

That evening John came to my room and said kind of sheepishly: "What's the name of the firm that makes those Washers you were talking me about?" I looked up that

advertisement and found the following address:

F. D. N. Bach, Manager
of the 1900 Washer Co.,
337 Yonge St., Toronto, Canada.

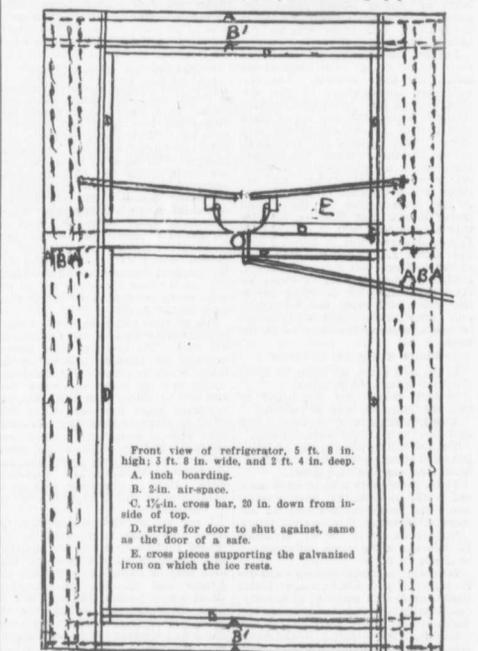
That's all he said, but he lost no time in sending for their Free Washer Book. The book came in due time, and with it an offer to send the 1900 Gravity Washer for thirty days free trial. My husband jumped at the chance to try the Washer without having to spend a cent. "Well, have four weeks' use of the Washer anyway, even if we don't decide to keep it," he said. So he told the company to send on the Washer. It was sent promptly, all charges paid, and the 1900 Washer Company offered to let us pay for it in little easy payments. The next week I felt well enough to use it. It is the nicest Washer I ever saw, and it almost runs itself. Takes only six minutes to wash a tubful, and the garments come out spotlessly clean.

We were all delighted with the Washer, and wrote to the company that we would keep it and accept their easy payment terms of 50 cents a week. We paid for it without ever missing the money, and wouldn't part with the Washer for five times its cost.

If women knew what a wonderful help the 1900 Gravity Washer is to me, they would be without it without it. I save work and worry and doctor's bills. Take away all the dread of wash-day. I feel like a different woman since I have quit the use of the tub. If my husband had bought one before trying to buy on credit, he would do just one big washing by hand-rubbing on a washboard, and he will be only too glad to get you a 1900 Gravity Washer.

Anybody can get one on free trial by first writing for the Washer Book.

Don't be talked into buying any other machine—there are many imitations, but none "just as good" as the 1900 Gravity Washer. Enclose me your name, such a long letter, but I hope, Mr. Editor, you will print it for the benefit of the women readers of your valuable paper. Sincerely yours, M. B. SMITH.



Front view of refrigerator, 5 ft. 8 in. high; 3 ft. 8 in. wide, and 2 ft. 4 in. deep.
A. inch boarding.
B. 2-in. air-space.
C. 1 1/2-in. cross bar, 20 in. down from inside of top.
D. strips for door to shut against, same as the door of a safe.
E. cross pieces supporting the galvanized iron on which the ice rests.

See page 25 for description of Home-Made Refrigerator

the proper proportions of all five classes, we call it a perfect food. No true food contains any other thing than one or more of these elements. And we should make our eating not merely a matter of hunger and taste, but we should bring our knowledge to bear upon it, and make it a matter of thought and science.

Milk contains the five different elements necessary to support life. If we allow milk to stand for some time, we can skim off the cream which is the fat. Then add a little rennet and the milk curdles and forms curds and whey. The curd is the muscle and tissue building protein. The whey is composed of water and a little mineral matter. The mineral matter, such as salt, sulphur, and iron build up hair, nails, etc., and some aid in keeping the blood pure. The heat and energy part we get in the sugar of milk.

COMPOSITION OF MILK.

In composition 100 lbs. of average milk contains 87 lbs. of water, 4 lbs. of fat, 5 lbs. of milk sugar, 3.3 lbs. of protein, and 0.7 lbs. of mineral matter. In regard to its nutritive value milk stands very high, and its worth is not appreciated as it should be, especially when we compare its cost with its value as a food.

While milk is a perfect food in itself, for an adult the different materials are not in proper proportions to continuously nourish the body alone

always by any means the nourishing process. We must always bear in mind that it is not what we eat, but what we digest, that is any benefit to us.

One authority gives one quart of milk equal in nutritive value to one pound of beef, and another authority gives one quart of milk equal in nutritive value to one quart of oysters, yet what a difference in cost. Should



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we not be thankful that such a highly nutritious food as milk can be had at so comparatively small cost? One important thing to be remembered, is that milk should never be boiled, possible to prevent it. When boiled, it is rendered partly indigestible, because the proteid, or muscle and tissue building part, is hardened, and is thus made difficult for the stomach to work on. Again, milk, when heated, if left without a cover, a scum forms on the top of it, which has to be removed to make it palatable, and we thus lose a valuable part of it, the protein. I may here say that a cup of warmed milk on retiring is one of the best and safest cures for insomnia. I can testify to this from personal experience. Skim milk should be valued more than it is. It still contains nearly all the protein for building muscle and tissue and making blood and bone, and half the value for heat.

Then, too, we have buttermilk which is also valuable. One glass of good buttermilk is equal in food value to half a pint of oysters, and yet what a difference in cost. It has a little less protein and sugar than skim milk, but more fat.

Canadian mothers should have a better understanding of the different food values that they may send their husbands and sons and daughters out into the world with strong bodies and well-stored minds, that they may be well equipped for the battle of life. We are nation-building and the sure foundation rests with the women of the 20th century. There is more truth than poetry in the saying, "That the hand that rocks the cradle is the hand that rules the world." I was particularly pleased at some of the things the Bishop of London said about Canada after his visits here last year. The finest thing he said was, "That in all his travels, the children of Canada that he saw on the streets going to and from school, etc., wear the healthiest, merriest, cleanest and best dressed children he had ever seen." Now, I think he could not have paid our country or our women a higher compliment than that. Healthy, merry, clean and well-dressed children, come only from homes presided over by capable and intelligent mothers.

Do you want to have your own subscription to Farm and Dairy renewed free? Then send us 2 new subscriptions at \$1 each and we will renew your own subscription free for one year.

A Handy Refrigerator

Alfred Smith, Brant Co., Ont. Last summer, Farm and Dairy was asked to publish the plans and a description of how to make a refrigerator, that would be suitable for the average farm home. We were unable to do this to our satisfaction at that time, but have since been favored with the drawings here given, and the fine description of an up-to-date ice box, submitted by Mr. Alfred Smith, of Brant Co., Ont. Mr. Smith writes that this refrigerator has given him

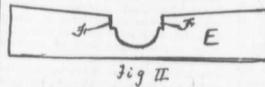


Fig II. E. One-inch boards, 6 1/2 in. high at ends, 5 1/2 in. high at the shoulders of the notch, to hold the trough. There are 3 of these boards placed the middle, and one at each end, one at the top, and one at the bottom. F. are notches to fit 1-in. by 2 1/2 in. strips, which sit on the metal sheets at the edges of

the best satisfaction and he would not do without it, for all it cost him. Mr. Smith's description as sent us, follows:

The refrigerator was made plain, not for looks. The only change I would make, if I were making another, is that I would line the inside with maple lumber instead of pine. Mine is pine, and I had to paint it, because of the strong odor of pitch in the pine. Of course we could not use it, until the smell of the paint passed away.

As to the cost, I don't remember just what it cost me, but it would cost a little more now, as lumber is dearer now than when I made mine.

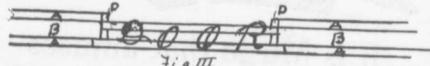
I used one pine plank, 2 in. thick, 12 ft. long and 10 in. wide, planed on both sides, which I left it when planed, 1-7/8 in. thick, and about 170 ft. of inch lumber. The boards were 12 ft. long, about 5 in. wide, planed on one side and matched.

I first ripped out of the plank, six pieces 2 in. wide, 22 in. long. These were halved together, and nailed with 2 1/2 in. wire, nails, making three frames 42 in. long, and 22 in. wide. I then set them on top one, when finished. This in Fig. 1, is marked C, while the top and bottom ones are marked B.

Then two thicknesses of plain build-

ing paper, (not tarred) was laid on the inside of the frames, and tacked down with small tacks, to hold it in place while working. We then boarded up the inside, as it is much easier done, as you can lay the boards right in place and mark where you want them cut off. All the boards inside and out run up and down, none-boarded sideways. Before boarding up the inside of the front, a piece 2 x 2 in. is set in between B and C on each side of the centre, the width the door is wanted, which on mine, is 30 in. apart. Then in lining up the front, the lining board on each side is run 1 in. further out than the strip, that is on the inside of the refrigerator, but in boarding up the outside it is kept back 1 in., making a double casing for the door to shut against. The outsides of the frame are covered with two thicknesses of the paper, as well as the inside. Then, as the frames are covered by the inside boarding, a strip will have to be put in at the top and bottom, a piece say 1 x 2 inches, to nail the inside of the top and bottom too, so as to have a two inch dead air space at top and bottom, with paper as in the other places.

The outside top and bottom boards are put on last. The doors are made 1 in. dead air space, strips 1x2 in. halved together and 3/4 in. thick. The top, outside board, covered with paper, runs up and down, and the inside boards crosswise of the outer ones,



A and B as in Fig. 1. D, B, strips for door to shut against. See Fig. 1. Door is three inches thick; two boards one inch thick, and one inch air-space. Door shuts flush with face boards at side.

so the doors shall not sag. I am not giving the exact size of the doors, as they have to be fitted to their place. To support the galvanized iron sheets that the ice rests on, there are three pieces marked E in Fig. 2. These carry the weight of ice, and have to be very strong. They are nailed in solid, and at F pieces 1x2 are put in between and nailed to the door. The galvanized trough to catch the drip from the melting ice, is half round, 6 in. wide and 20 in. long. In the centre a piece of galvanized pipe 3/4 in. and about 2 in. long is soldered

in, as in Fig. 1, then a longer piece with an elbow that shows up tight on the side of the refrigerator and then as we keep ours in the cellar, we put a piece of rubber hose on the end of the rubber pipe and by making a bend in the rubber in so no air can pass up the pipe. The water that overflows goes into the cellar drain. The galvanized plates are 16 x 22 ins. They do not reach to the edge of the refrigerator by 1 in. to allow the cold air to settle down to the lower part; they are turned up to the edge about one inch and nailed against the back of the refrigerator. At the front a piece about 3/4 of an inch thick and 1 in. wide is laid on the plate and then the plate is turned back over it and nailed; it makes it stronger and prevents any water that melts from the ice, from running forward and dropping down into the lower part.

We have two shelves made of 2 inch wide sawwood slats, 3/4 in. thick. The shelves rest on cleats at each end, and can be lifted out if desired. There are two doors, one for the ice chamber and one for the lower part. We buy our ice in the winter and store it away for the summer. The blocks are cut 18 x 27 ins., and one block will last us in hot weather from 5 to 7 days.

An excellent hair tonic is made as follows: Dissolve a five cent bar of white castile soap in a quart of water and let it boil ten minutes. Then cool and add one pint best bay rum,

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OUR HOME CLUB

The Summer Boarding Question

Just at this time, there are many problems which confront the homemaker; there is spring cleaning, summer holidays, flower and vegetable gardens, and others. I want to write to Our Home Club and find out how the readers of Farm and Dairy view the problem of the "Summer Boarder." I am not going to speak of the financial aspect of the problem. I will leave that for some member who has some experience of providing for summer boarders. What worries me is, whether the summer boarder is an influence for good or evil in our communities? Some one may say, "I wish I could

build a stone wall around all our pretty villages and prevent the city-folks from entering." This may seem strong sentiment, but I think the city visitor has brought it on himself. In many cases these people leave all their Christianity at home with their good clothes. They start off with the idea of having a free and easy holiday. They dress as they please and disregard all the religious services of the village. I have known people who haven't been in the church for three months during a summer holiday. One can imagine what an influence such a summer would have on the children of the people. If it influenced them, what about the boys and girls of the towns and villages, who are watching them?

It is true that many who go to the country take with them a small stock of the good manners which they are supposed to have at home, but there

are a great many who plan their holidays so as to make them a blessing wherever they go.

I hope the members of the Home Club will give their impressions of "summer boarders," for there is a great deal to be written on both sides.—"The Pastor's Wife."

Should the Farmer and his Wife Have Holidays, and When?

The ministers have holidays, the teachers, lawyers and so on down the list, all look forward to holiday time, but whoever heard of farmers' holidays? Not long ago an industrial exhibition was in progress in a large departmental store in the city. The place was thronged with all sorts and conditions of people. The remark was heard, "What is on to-day, look at all the farmers," there must be an excursion. No badges were worn to announce the fact, but somehow every farmer was spotted.

I doubt if those city chaps who made the discovery of the excursion as they called it got the same enjoyment out of their holiday as we did. We were out on business all pleasure, and were proud of the fact that we were farmers. The reason we are so indifferent to appearances and go around gazing at everything is just because we go so seldom. No profession or calling could have more leisure time if we so willed it.

It is the positive duty of every farmer to go away for a holiday. Not for one day only, that does not count; but for a week or more. It gives him a better viewpoint of his farm and home. It creates ambition, he makes contrasts. He will make a better neighbor, father or son and he will have a clearer, broader vision of life, of work and of home.

What of the mother or wife or daughter? Does she not realize that they are in the kitchen or with the work basket? All day long she sees no one, perhaps for days, but those of the home. There are few in the home it is lonely indeed at times. She is a mere machine and it becomes maddening at times. Take her for a drive if it is only to the blacksmith shop.—"Aunt Faithie."

How to Keep Young

Some of us are older at twenty-five than others are at forty. There are certain laws of physiology, which as women, we are apt to violate and as we grow older, the form loses its youthful grace and we become stiff and clumsy. There is no reason why a man or woman at seventy should not have the trim figure of twenty, yet if one speaks of physical culture to the average busy woman, she exclaims: "Do not say a word to me about physical culture. I get all the exercise I want running around that kitchen."

Any line of work that we pursue habitually, exercises one set of muscles. The muscles that are not used will not grow. Consequently to keep the natural symmetry of figure, we must take some line of exercises that will bring into active play, the muscles that are brought into use by our daily labor. So to the woman working around the kitchen, or the woman engaged in sewing or any line of work, the necessity for physical culture is quite as important as those whose duties exercise all parts of the human body. We cannot disregard these laws of nature without suffering pain. When we are quite young. They do not have half enough fun in their lives. We women too often, I believe, recall disagreeable events; We leave unnoticed the humorous incidents.

Did you ever notice the interest with which two women will minutely describe every pain and ache, just where it began, just when it ended! The party to whom it is being related, is not half listening, because she

is racking her memory in order to match these miseries, with a tale equally as bad. They leave each other in a worse condition than when they met. Better far have spent the time relating some little nonsensical laugh-provoking anecdote, for laughter starts the circulation and rests one. We make no serious business of one life and laugh at its little humors too seldom.—"Cousin Eva."

For lack of space we can not give further contributions to the Home Club. Better far have spent the time to criticise each others opinions very briefly and discuss the subjects dealt with fully, but their letters must be very brief. Not larger than a quarter column each.—(Editor.)

THE COOK'S CORNER

Send in your favorite recipes for publication in this column. Inquiries pertaining to cooking are solicited, and will be replied to, soon as possible, after receipt of same. Our Cook Book sent free for two new yearly subscriptions at \$1.00 each. Address, Household Editor, this paper.

BREAD AND FRUIT PUDDINGS.

Almost any kind of fruit or berries can be used with dried bread crumbs or left-over cake crumbs, or a little of both, mixed. Put in alternate layers in a buttered pudding dish, sweeten to taste, add spice to taste, and if the fruit is very juicy, moisten with a little water or milk. Bits of butter dotted over the fruit are an improvement when such fruit as apples or peaches are used.

RICE AND JAM PUDDING.

Put alternate layers of stiff cooked rice and strawberry or raspberry jam into tea or individual pudding cups, and set away in an ice box or cellar to cool until supertime, when they may be turned out into saucers and served with cream.

SWEET SPICE SAUCE.

Boil 1 cup sugar and $\frac{1}{2}$ pt water 20 minutes. Then remove from fire, and add 1 teasp each extract of cloves and of ginger.

CRACKER CUSTARD PUDDING.

Heat 1 qt milk, and pour it over 1 cup powdered crackers. Let stand 10 minutes, then stir in the beaten yolks of 5 eggs and 5 tablesp melted butter. Beat smooth, and then add the beaten whites of 5 eggs. Bake about $\frac{1}{2}$ hour, or until the custard is set.

MOCK CREAM PIE.

Cream together $\frac{1}{2}$ cup sugar, butter size of an egg and 1 heaping tablesp flour. Then add beaten egg, 2 cups milk, and flavor to taste. Turn into an under crust and bake until firm.

OLD FASHIONED MOLASSES PIE.

To 1 cup molasses add 1 cup sugar, 3 well-beaten eggs; 3 tablesp butter, and 1 tablesp cream. Bake in an under crust.

JELLY MERINGUE PIE.

To 1 cup of any tart jelly add yolks of 4 eggs, 1 tablesp butter, 1 cup cream, and beat all well together. Line pie with a rich crust, fill with the mixture, and bake in a quick oven. When done cover with a meringue made from the whites of the eggs and powdered sugar. Return to the oven a few minutes to brown slightly.

SWEET BISCUITS.

To 1 cup sour cream add 1 teasp soda, a pinch of salt, 1 teasp caraway seed (these may be omitted), 1 cup sugar and flour enough to make a soft dough. Cut out and bake in a quick oven.

Farm and Dairy gives good satisfaction. I would not be without it. There are quite a few valuable recipes in it.—J. W. Young, Welland Co., Ont.

The Flute



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Thomas A. Edison.

Some Mistakes in the Dairy

Bella Millar, Guelph.

The keeping of unprofitable cows is a great mistake. It is an easy matter to keep a cow record and to test the milk and know exactly how much each cow is producing.

The cream separator is so largely used at the present time that a talk about the mistakes made in handling separator cream might be a help, especially to those who are about to purchase a separator. We now know that it is not necessary to learn every lesson by hard experience, because we can save a great deal of worry, and often save time and money as well, by being willing to learn from the experience of others.

Neglecting to cool the cream has been the cause of inferior quality of butter; always cool the cream quickly to a low temperature as soon as you have finished separating. After the fresh cream is cooled, it may then be added to the cream that has already been collected for churning.

Another mistake is that of taking a thin cream from the separator. It would be to our advantage to take a rich cream for butter-making, whether it is to be manufactured into butter on the farm or in the factory. If we are sending the cream to the creamery, we will be leaving more of the skim milk on the farm, and let us remember that the creamery man is not paying us for skim milk. We find that the richer cream does not sour so readily, and this is a help, especially when the cream is not collected as often as it should be. There is not as much cream to handle, and it can be churned at a lower temperature than a thin cream. These are some of the advantages of taking a fairly rich cream for butter-making.

CLEANLINESS

Neglecting to keep the separator and its surroundings clean has been the cause of much tainted cream. The

parts of the separator that the milk comes in contact with should be washed every time that milk is put through.

Another thing we should always remember, whether we are using shallow pans, creamers or the cream separator, and that is to stir the cream from the bottom to the top every time. A stirrer such as is used in the O. A. Dairy, a saucer-shaped piece of tin with a heavy wire handle—enables the butter-maker to do this important piece of work quickly and thoroughly. I would suggest to anyone ordering a stirrer of this kind to ask the dealer to tin the handle. If this is not done it is apt to rust.

In ripening the cream for churning, let us develop just a mild acid flavor. The day has gone by when the cream was allowed to become quite sour before churning. We must watch the trade and supply what is in demand, and we find that a clean mild flavored butter is what is wanted.

If we should be using a culture or starter to assist in the ripening, let us beware and use only that which has a flavor such as we would wish the butter to have. No magic takes place during the process of churning—the flavor of the butter is determined before the cream goes into the churn. If we have given the cream proper treatment up to the time of churning, it will flow glossy and smooth and perfectly free from lumps.

STRAIN THE CREAM

A mistake is often made in putting the cream into the churn without straining it, and that is why we sometimes see little white specks in the butter—particles of curd which should not have been in the cream, and which would have been kept out of the churn if a strainer had been used. This butter not only has a poor appearance, but poor keeping qualities as well.

Too often we try to churn at the same temperature that a neighbor is using and forgetting that the conditions under which we are working are very different. Let us in choosing churning temperature, remember that a great many factors have an influence, such as the richness of the cream, amount of cream in the churn, the feed the cows are getting, length of time the cows have been milking, the temperature of the dairy room, etc., etc. And so we will choose the temperature that will bring the butter in nice firm granules in from twenty to thirty minutes.

VISIT OTHER DAIRIES

Do we make use of every opportunity we have for visiting other dairies and creameries? We can always learn something that will be of help to us. One farm buttermilk seller visited a creamery, and she noticed that, before they put the wash water on

the butter, they rinsed off the butter, and she went home and put into practice this excellent method.

In the cold weather we should temper the wash water, taking into consideration the condition of the butter in the churn, and also the room for washing, and using water at such a degree that the butter will be neither too hard nor too soft, but of nice consistency for working.

Some of the mottled butter we see is caused by the use of very cold wash water. Parts of the butter become chilled and hardened, and so are paler in color because they do not take the salt as readily as the softer parts.

SALTING

Regarding salting, let us not only buy a good quality of butter salt, but let us vary the proportions used to suit our customer. It is very poor business policy for us to try to make the people take what we like. If we look about us in this age of competition we find the manufacturer studying the likes and dislikes of the people, and he succeeds by catering to their tastes.

Great pressure only, is the rule for working butter, but we find a great deal of butter made unpleasantly greasy by wrong methods of working; by overworking, and by trying to work when it is too hard or too soft.

There are a few labor savers that might be in every dairy to lighten the work and add to the pleasure, but let us see to it also that we use our labor savers to the best advantage and not do as we see so often done with the brick butter print. Instead of the butter-maker putting the print down by overworking, and by trying to work when it is too hard or too soft, we see the print held up in the hand and the ladle used to try and pack a pound of butter into the print.

In buying parchment paper for wrapping our butter, let us note that the paper is of good quality. Lots of good clean butter looks anything but inviting, because cheap paper of a grayish color is used, giving the package an unclean appearance.

The Sewing Room

Patterns 10 each. Order by number and size. If for children, give age; for adults, give measurements. For waists, and waist measure, give skirt. Address all orders to the Pattern Department.

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The garment consists of the drawers and the corset cover. The corset cover is made in one piece. The drawers are made in plaits at their upper edges and joined to the lower edge of the yoke while the corset cover is joined to the upper edge.

Material required for medium size is 1 1/2 yds. of flouncing 16 in. wide, 3 yds. 22 and 1/2 of plain material 26; or 2 1/2 yds. of plain material 36, 3 yds. 44 with 3/4 yd. of wide, 1 yd. of narrow heading, 1 1/2 yds. of edging to trim as illustrated.

The pattern is cut in sizes for 32, 34, 36, 38 and 40 bust and will be mailed on receipt of 10 cts.

MISSIS MILITARY COAT 6254.

The military coat is always a smart thing for young girls. This one can be made with the high neck and collar illustrated or can be cut to form a V-shaped neck.

Material required for the 15 yr. size is 4 1/2 yds. 27, 2 1/2 yds. 36, 1 1/2 yds. 42 in. wide with 1 1/2 yds. of braid.

The pattern is cut for girls 14 and 15 yrs. will be mailed on receipt of 10 cts.

GIRL'S DRESS 6257

This simple frock is especially adapted to washable fabrics. For everyday wear the inexpensive printed fabrics are admirable. Again, the frill at the lower edge can be made of a yard of embroidery or of the material.

Material required for medium size (12 years) is 5 1/2 yds. 24, 3 yds. 28, 2 1/2 yds. 44 in wide with 3/4 yd. 18, 3 yds. of embroidery 9 in wide, and 3/4 yd. of edging for the bertha, to make as illustrated.

The pattern is cut in sizes for girls of 8, 10, 12, and 14 yrs. and will be mailed on receipt of 10c.

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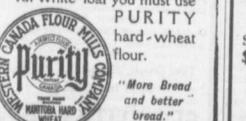
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Legislation Governing Factories and Makers

(Continued from page 21.)

ishment for the manufacture of milk products shall register with the Minister of Agriculture, on forms supplied by him, stating the nature of the business carried on, the exact location of the same, and such other information as to ownership as may be required by the Minister, and an exact record of all such registrations shall be kept by the Minister and shall be open to public inspection.

5.—(1) On and after the first day of January, 1910, no person or persons, company or corporation shall carry on business in a creamery, cheese factory, milk condensary, milk powder factory or the manufacture of any form of dairy products in any building or place not recorded in the list referred to in section 4 without first applying to the Minister of Agriculture and receiving from him permission to do so, and this permission shall be granted only on a report upon the same has been filed, signed by an inspector.

(2) Refusal to grant permission under this section may be based upon lack of proper equipment, or unsanitary conditions.

(3) An appeal from the decision of the Minister may be made by the applicant to the agent, Governor in Council whose decision shall be final.

6.—Upon the report of an inspector that any creamery, cheese factory, etc., is not in satisfactory sanitary condition or is inadequately equipped for the manufacture of dairy products, the Minister may order the owner or manager of the same place to close it down forthwith and it shall be kept closed until such time as the inspector reports that it has been put into a satisfactory condition and is adequately equipped for the manufacture of dairy products.

7.—On and after the first day of January, 1911, no person shall act or be allowed to act as chief maker in any cheese factory or creamery who does not hold a certificate of qualification from the Dairy School of the Ontario Agricultural College or from the Eastern Dairy School.

(a) In place of the above certificate of qualification a special permit may be issued at any time by the Minister upon the recommendation of an inspector on the general grounds of experience and competency.

The clauses relating to the erection of factories are not in strict accordance with the report submitted by the special committee of the Dairymen's Association and which were incorporated in the first draft of the bill. There was some opposition to the part of the bill preventing the erection of factories where factories in operation were sufficient for the public needs and it was eliminated. As the Act now reads refusal to grant permission for the erection of a factory may be on the grounds of lack of proper equipment or unsanitary conditions.

The clause relating to makers has been changed somewhat from the original draft given in Farm and Dairy for March 25th. In its practical working out it is the same, though not so clearly expressed. The chief maker of experience who has never attended a Dairy School and who has shown that he is capable of satisfactorily managing a cheese factory or creamery does not receive the same recognition that the first draft gave him. As the bill now stands only those who have attended or shall attend a Dairy School shall receive regular certificates of qualification. All others, if qualified, will have to be content with a special permit. We prefer the original draft as it gave all those who could qualify up to the end of 1910, the same standing, whether they had dairy school training or not.

Dairy Notes

Mr. A. E. Gracey, Dorchester, Ont., has been appointed instructor for the London group, in place of Mr. Hamilton, resigned.

With this exception no change has been made in the personnel of the cheese instructors for 1909, who have all been re-appointed.

Mr. James Buchanan, creamery instructor in Eastern Ontario last year, has decided to devote his whole time to his business at Port Perry, Ont. Mr. J. F. Singleton takes his place in creamery work and also as assistant to Mr. Pulow, at the Kingston Dairy School.

The instructors for Western Ontario will spend the week (April 5 to 10) at the Guelph Dairy School. The instructors for Eastern Ontario began a course of instruction at the Kingston Dairy School on March 30th, which closed on April 7th.

ALFA LFA or LUGERNE CLOVER SEED

Are you going to seed down a field with this valuable Foreign Plant TOBE SUCCESS

Greatly depends on the seed you select. Our "Gold" Brand, we honestly think is the largest, brightest.

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We have just received from the Seed Commissioner at Ottawa, that our "Gold" Brand Alfa is the best they have record of, both for purity and vitality.

We still have a limited quantity. Present price, \$12.50 per bush. F. O. B. Toronto. Bags, 25c each.

Present prices for our best:

RED CLOVER, ALSIKE & TIMOTHY

"Sun" Brand Red Clover - \$ 7.75 bush.
Diamond Brand Timothy - 3.25 "
These Grade No. Government Standard

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Ask for Samples and judge for yourselves

We have selected these seeds first and last for their purity. You cannot get cleaner seeds in Canada.

ROOT SEEDS

KEITH'S SELECTED

Following by Mail add 5c. per lb. for postage.

Half Sugar Mangel	20c per lb.
Champion Yellow Intermediate Mangel	15c "
Mammoth Long Red	15c "
Scottish Champion Sweet Turnip	25c "
Elephant or Jumbo	20c "
New Century	20c "
Improved White Intermediate Carrot	35c "

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In the "Keith's Selected Strains" will be found the best material to be the very best varieties of every prominent vegetable family.

3 pkts. for 10c. with the following list:

Early Best Lettuce (Curly)	Early Parsley
Late Best Lettuce (Head)	Pumpkin
Butter Beans	Radish
Early Cabbage	Water Melon
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Cress	Golden Globe
Carrot	Wint. Squash
Celery	Onion
Early Corn	Early Onion
Early Parsley	Tomato
Cucumber	Turnip

Os. pkts. for 10c. for the above 10c each. Post Paid.

Sweet Peas, Nasturtiums, Tall Nasturtiums dwarf, Morning Glory, Scarlet Runner Beans.

Os. pkts. any of the above 2c. each. Aster, Alyssum, Candytuft, Poppy, Mignonette.

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OUR FARMERS' CLUB
Contributions Invited

NOVA SCOTIA

ANTIGONISH CO. N. S.
ANTIGONISH.—Our Farmers' Association is doing good work by holding meetings throughout different sections of the county, a series of three meetings has just been concluded, at which drew Elliott, Inverness, of Galt, Ont., and Dr. W. H. Peshick, of Galt, Ont. Dr. Elliott spoke principally on soil fertility, and care and management of sheep. The able manner in which he spoke, could not but convince his hearers that there might be a great improvement in our country along those lines. Dr. Peshick's address was also very interesting. He gave a brief outline of, ascertaining if the disease known as the Pictou cattle disease was caused by the weed, stinking willow. After a number of years earnest work the doctor is convinced that this weed is the cause of the disease, but that it is innocuous to sheep. He would therefore recommend that farmers keep large flocks of sheep in order to exterminate the weed. The most of our farmers are busy plowing their year's supply of wood others are getting their seed corn cleaned and ready for spring. Oats are selling at 65 cents a bu., hay \$10 to \$12 a ton, Bran \$25 a ton.—Tom Brown.

QUEBEC

COMPTON CO., QUE.

COMPTON CENTRE.—The weather continues very cold and stormy, although it has not warmed up much. The snow is deep in the sugar orchards that it will be very hard to get around. Eggs are in a dozen, dressed pork is 19 1/2¢ a lb., muttons are rushing business now, in order to finish before the roads break up.—H. C.

L'ISLET CO., QUE.

L'ISLET.—We have to feed our young stock until the first of May and our milk cows till June. Many bargains are going for hay and straw, some are being offered at a bargain. There is enough roughage to meet all the requirements of the meat to cattle. Many do not feed imported here to date, they have been eight cars corn. Bran and shorts in many farms have also been brought in. Many farmers are preparing for the sugar season. The strawberries, as they call them here, are very often situated from 40 to 45 miles from home, some in the State of Maine, and the carting consequently be complete for the voyage. As keep in touch with the conditions of both the medium of this farmers' club. Let us work together for the prosperity of the finest country on earth—the Dominion of Canada.—A. F.

ONTARIO

PRESCOTT CO., ONT.
The following prices are being paid for farm produce: Timothy hay, \$15 a ton; clover hay, \$13, oats 50¢ a bush; corn 50¢ a bush; bran, \$23, \$25 a ton; middlings, \$38; fresh eggs, 20¢ a dozen; cmv. butter, 25¢ a lb; potatoes, 60¢ a bush; springers, \$35 to \$50 each; calves, \$1 to \$3; beef, 6¢ a lb; dressed hogs, 9¢ a lb; dressed mutton, 10¢ a lb; dressed beef, 6 to 7¢ a lb; hides, 7 1/2¢ a lb.—R. T.

PRESCOTT CO., ONT.

GLENN ANDREW.—Our annual factory meeting was held on the 9th inst. A good out of about forty farmers turned up. We had Mr. Graham of Vankeek Hill and Mr. Villeneuve of Casselman, Government instructors. They delivered able addresses on the care of milk on the farm, and on other subjects as well. Every one seemed well satisfied with the information they received. These district meetings should be the means of assisting in making our people to see the necessity and larger factories, better makers, tailoring the dairy business on a better basis. The business should be raised out of the miserable deplorable condition it has gotten into in the old province of Ontario and Russell. It will certainly be better and more profitable for all parties concerned.—J. C. M.

HASTINGS CO., ONT.

TURRIFF.—We have recently heard of a case which sounds like the beginning of a solution of the credit problem of merchants and other questions as well. A prosperous farmer being dissatisfied with the rate of interest earned by his deposits in the banks withdrew his money and is loaning it in small sums to his neighbors. If others would follow his example there would be a boon to the investments are likely to be profitable.—H. W.

NORTHUMBERLAND CO., ONT.

ORLAND.—With the beginning of spring, farmers are exerting themselves, in getting up their summer wood, and orchard trimming. We are preparing for a long season in progress for some time. The trees are now in readiness to receive their prices, which have been unusually high all winter, are still keeping up, except hay. Good timothy hay sells as low as \$8 a ton. Dressed hogs sell at 95¢, live weight at 87.25¢ a cwt; potatoes, 60¢ a bag; corn, 60¢ a bush; fresh eggs, 15¢ a dozen; cmv. butter, 25¢ a lb; No. 1 cheese, 76¢ a lb. Apples are scarce; no surplus stock on hand. \$150 to \$200 a barrel would be an average price. Farm produce is plentiful and farmers are paying about \$23 a month with board, including house or eight months.—J. W. B.

EDVILLE.—In March 25th issue, an error occurred in my letter in this department. It read, "During the last five years its cheese sold for over \$23.000," whereas it should have read, "During the last year its cheese sold for over \$23.000."—R. A.

DURHAM CO., ONT.

BLACKSTOCK.—The snow is disappearing very fast. The fall wheat is looking very brown, however, it may come out all right. The clover is still green and healthy looking. Cattle generally have come through the winter well and are well in good condition. Feed with some farmers will be pretty scarce; however, the majority will have plenty to supply the requirements until the pasture is ready. Roots were fed out early on account of their not keeping very well, corn feed and winter kept exceptionally well.—R. J. F.

WILLINGTON CO., ONT.

MOUNT FOREST.—The amount of seed grain has been very great this spring, and seed seems to be scarce. On account of the wet weather last spring, a large proportion of the grain crop was so late, consequently there is a great deal of seed grain. The large number in search of seed grain, and the late planting, tend to indicate a lack of forthright, spring preparations made one year in advance would probably have been better. The best grain which had received the best possible cultivation, there was no scarcity of seed.—C. N.

MIDDLESEX CO., ONT.

TEMPO.—A nearby farmer took a cracking big load of hay bulk London market one day recently. The load after weighing was found to contain 4630 lbs. of hay. This outstandingly big load that has ever been put upon the London scales. On a farm near Kilworth which was settled over a century ago, \$1000 worth of pine was recently sold to a sawmill owner. He is cutting the logs into lumber and building material for the mill. The contractor who has the mill farm at Tempo 12 acres of timber was sold the other day to one of the handle of factories of London for over \$100,000. \$150 an acre. This farm has been in cultivation for about 100 years but the timber was carefully preserved for the different owners and is now yielding splendid returns. A wolf has been running at large in one of the townships of Middlesex for about a year. This savage pest destroyed over \$1000 worth of sheep before he was shot a few weeks ago, but the incensed farmers of Meosa, who would stand his wolfship no longer.—J. E. O.

BRUCE CO., ONT.

HEPWORTH.—The roads are in bad condition. There is very little maple syrup being made this year as very few have any good maple trees left after the fire last fall. At an auction, a lot of lately milk cows went as high as \$51 each, and a good deal more cows at that. There is a high demand for milk cows at the sale; butter is 20 cents a lb; eggs are 16¢; hams \$10 a ton; oats about 40¢ a bush.—J. K. L.

LAMBTON CO., ONT.

WYOMING.—The wheat is heating very badly, and its appearance will be a poor crop. There is much plow-

LIVE HOGS

We are buyers each week of Live Hogs at market prices. For delivery at our Packing House in Peterborough, we will pay equal to Toronto market prices. If you cannot deliver to our Packing House, kindly write us and we will instruct our buyer at your nearest railroad station, to call on you.

THIS WEEK'S PRICES FOR HOGS DELIVERED AT FACTORY
\$7.00 a Cwt.
FOR HOGS WEIGHING 160 TO 220 LBS.

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PETERBOROUGH, HULL, BRANTFORD

ing to be done this spring—too dry last fall. Hay and straw is quite plentiful. What sells for \$1, near \$0.80, barley, 55¢; oats, 43¢. Stock of all kinds is selling well. Sucking pigs are \$6 a pair. There has been no fault finding with the pork packers here nor with the price of hogs. We think they pay well, but there is really no help on the farm as the greater part of our boys became bank clerks, school teachers, farm. The result is good farms, poorly drained, plowing behind, corn and other food crops neglected or not planted, on account of too much work; then hogs not kept in large numbers, therefore good farms sell cheap.—D. N. A.

GOSSIP

COOPER'S WORM TABLETS
Wm. Cooper and Nephew,
I have used your worm tablets on a

Clyde stallion, The Favorite, (1892), and had much pleasure in stating that after failed, the Cooper Worm Tablets came, indeed so bad that I thought it would kill die. I afterwards sold him for a big price, and he was cured very soon. I am a cure for worms. (Signed) Thos. Graham, Clarendon, Ont.

Caustic Balm for Spavin and Ringbone
I have used your Gombault's Caustic Balm for spavin, ringbone and a good many other ailments, and found it very good for all.—ALP. LALONDE, Casselman, Ont.

I like Farm and Dairy, as I always get some good reliable information from it.—W. V. Smith, Lennox Co., Ont.

JOHN A. BRUCE & CO., Seed Merchants Established 1859 **Hamilton, Ont.**

Used on your farm this Spring will increase the yield and insure a good crop on your. They are doing it for others, and will do it for you also. Do not hesitate to order any or all of them. They will make good.

The Peter Hamilton Co., Limited
PETERBOROUGH, ONT.

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Have you won any pure bred pigs the past year, for the securing of new subscriptions to FARM AND DAIRY? If not you can easily do so this spring. Read our offer below.

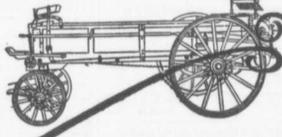
We will give a pure bred pig, of any of the standard breeds, from six to eight weeks old, with pedigree for registration, for only seven new subscriptions to FARM AND DAIRY at \$1 a year each.

Secure pure bred stock and weed out your old scrubs. Send for sample copies at once.

Circulation Department, FARM AND DAIRY, Peterboro, Ontario

"Success" Light Draft Roller Bearing Manure Spreader for 1909 is greatly improved

Just go to the Paris PLOW Agent in your locality and examine the New 1909 "Success" Manure Spreader. You'll have no doubts about which machine to purchase after you've seen it and noted the improvements for 1909.



The drawing below illustrates the New Gear Case enclosing the Apron Driving Mechanism. The case is cut away so that you can see the Worm and Gear, which run in oil. This case not only prevents all "leakage" of oil but dust-tight, too. This oil-tight, dust-proof case

The bottom drawing shows Beater with Roller Bearing at end of Beater shaft. There is also another Roller Bearing at other end of Beater Shaft. These two bearings make the "Success" Beater a marvel for smooth and easy running—and materially decrease the draft. There are three other sets of Roller Bearings on New 1909 "Success." (Any Paris PLOW Agent will show them to you). Their use lessens the draft of "Success" by at least one horse.

The large Black Teeth shown on end of Beater are the Harpoon Teeth. These Harpoon Teeth cut up the long pieces of straw that would otherwise wind around the end of the beater and clog it up. And this is just another draft-decreasing feature found on our spreader but the "Success."

Gear makes the apron driving mechanism of the "Success" the smoothest and easiest-running, lightest-draft on any manure spreader. And as the Worm and Gear are so fully protected against wear they are rendered practically indestructible.

But just see the "Success," and note all its superior features. That's the right thing to do before making your choice of a manure spreader.

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Lands are offered for settlement in some cases FREE, in others at 50 CENTS per acre, in various districts in NORTHERN ONTARIO.

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THOS. SOUTHWORTH, Director of Colonization, Toronto

HON. JAMES S. DUFF, Minister of Agriculture.

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UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder engine, built on the principle of the four-cylinder engine, with greater durability. Use the "Master Workman" for all your power needs. It is the only engine that will give you 100% efficiency. Write for catalogue. THE TEMPLE FURNING CO., Mrs. W. Meagher and 1648 St. Charles, Chicago. THIS IS OUR FIFTY-SIXTH YEAR.

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City Milk Supply

Mr. W. K. McNaught's bill for the appointment of a commission to investigate and report upon the conditions under which milk is produced in Ontario for human consumption has passed the Legislature and the personnel of the commission will likely be made known at an early date.

For a couple of years there has been some agitation, mostly in Toronto, for some further legislation regulating the milk trade. When it came down to the point of devising legislation to meet the situation it was felt that there was not enough information about milk and the conditions under which it is produced to deal intelligently with the matter. Hence the commission.

Supplementary Estimates

Agriculture does not share to a very large degree in the supplementary estimates brought down in the legislature. Out of a total of over \$417,000, agriculture receives \$72,300, made up of a grant of \$3000 to agricultural societies in Northern Ontario; \$250 to the Ontario Corn Growers' Association; \$450 for experimental work in cheese factories and creameries; an addition of \$4,000 for field crop competitions, and \$4,600 for extended work in teaching agriculture in High Schools.

It is the intention to establish three more agricultural bureaus similar to those located at Whitley, Perth, Galt, Collingwood and Essex and for this purpose this last item of \$4,600 is appropriated. It is probable that one of these bureaus will be located near Toronto, one in the east and one in the west.

The increase for field crop competitions makes the total appropriation for this work \$7,000. The marked progress these competitions have made is shown by the grants for the different years. In 1907 it was \$1,000; and in 1908, \$3,000, with 47 societies competing. The number of societies which shall be allowed to compete in 1909 is limited to 100. The Superintendent of Agricultural Societies expects that the limit will be reached this year. A feature of interest this year will be the grain in the sheep competition to be made at the Canadian National Exhibition. Societies desiring to enter the competitions should file their applications with Supt. J. Lockie Wilson before the first of May. As the Agricultural Societies Branch will not have the co-operation of the Seed Branch at Ottawa in judging the crops, the expense of conducting the work will be increased.

The Holstein Sale at Ancaster

One of the most important and successful sales of pure bred Holstein cattle that has taken place in recent years was held on Thursday last, April 1st, at Broadholme Stock Farm, Ancaster, Ont., the home of Mr. R. S. Stevenson & Son. The prices realized, apart from the profits from the products, go to prove what can be done by judicious selection and breeding. All the individuals were raised by Mr. Stevenson himself. This goes to show what a large profit can be made from Holstein-Friesians. There were 30 head of pure bred and six head of high grades brought to the hammer, which was wielded by Major Welby Almas, of Brantford, who was assisted in the ring by Mr. J. W. Richardson, of Caledonia, and by F. T. Durieu, of Peterboro. The returns totalled \$5547, which averaged over \$184.00 a head.

That noted sire, at the head of this

Fence Friends

Every buyer of Peerless Fence becomes a friend of ours because Peerless fence saves him trouble, money and time. PEERLESS Woven Wire fence is made of all No. 9 steel. Very well galvanized. PEERLESS FENCE requires very few repairs, and you save money on the net cost of your fence.

PEERLESS

The Fence That Saves Expense

One of the reasons why PEERLESS Woven Wire Fence is better than other fences is because of the PEERLESS GALVANIZING. It holds securely and without changing the wire, yet there is just enough elasticity to prevent rusting from expansion, shocks, changes in temperature or from any other cause. Stock cannot get through it—under it or over it. There are many advantages in buying PEERLESS FENCE in preference to others that we have not room in this advertisement to tell you of them.

Your name on a postal brings you our new printed matter, containing much useful information in regard to fencing. Write for it today.

The Danwell Hoxie Wire Fence Co. Ltd., Hamilton, Ont., Windsor, Mass.



Cement Fence Post Mould

Makes 100 posts a day at a cost of from 10 to 15 cents each.

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CONCRETE POST MOULD

The regular price of this mould is \$12.00, but we want to sell 500 during the next 30 days to advertise them.

OUR 30 DAY OFFER—Send us \$5.00, and we will ship our mould to you. USE IT 30 DAYS. If then entirely satisfied, send us \$2.00 more, but if not entirely satisfied, just write us saying that you do not care to pay the \$5.00, and we will either return the \$5.00 sent with order (you then to return mould to us) or accept the \$5.00 as full payment at our option. We want you to try our mould. We know it is worth twice what we ask, and we believe you are honest, or we would not make this offer, WRITE US TODAY.

THE WEST LORNE FOUNDRY West Lorne, Ontario

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The modern treatment for BONE SPAVIN and RING BONE

(1) It will not injure or eat into the parts or kill hair.

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(3) Guaranteed to cure; has never failed.

(4) It produces anchylosis of the joint, which your veterinary will tell you is the only cure.

To introduce my remedy in Canada I will mail it to any address for one dollar.

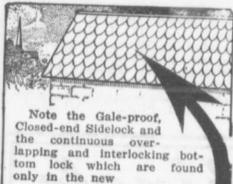
I believe a practical test of the Remedy in each locality is all that is required. The above price will only last a short time; take advantage of it now, delays are dangerous.

Address: mentioning this paper, J. A. McLARTY, Manufacturing Chemist, THESSALON, ONT.

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Note the Gale-proof, Closed-end Sidelock and the continuous overlapping and interlocking bottom lock which are found only in the new

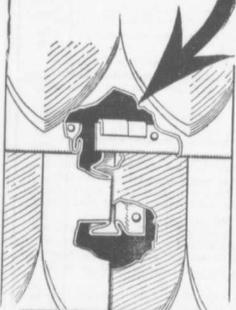
"GALT" SHINGLES

This ingenious and yet simple and easy-fitting construction makes a "Galt" Shingle roof absolutely weather-tight. It prevents wind from driving rain or snow up and out of the top end of side lock, as so often happens with ordinary metal shingles. There is not even the smallest opening—this cannot be truthfully claimed for any other steel shingle.

The material is the Best British Galvanized Steel embossed in a bold Gothic Tile pattern—"a thing of beauty and of joy forever." Catalog "E-3" gives complete details of this newest and best shingle.

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Towers Girted every five feet apart and double braced

- Grain Grinders
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herd, Gano's Favorite Butter Boy, 6654 C.H.B., realized \$325, going to Mr. George Ward, of Brantford. Major Almas said regarding the sale, "It is the finest herd of Holsteins I have ever sold and their condition reflects the greatest credit on Mr. Sterenson and his son. It is a pleasure to see such a herd and it goes to show what can be done in using good common sense and a judicious selection of sires." The sales made and the prices realized will be found on page 31, of this issue.

Experiments with Farm Crops

The Ontario Agricultural and Experimental Union is prepared to distribute for 1909 into every township of Ontario, material of high quality for experiments with fodder crops, roots, grains, grasses, clovers and fertilizers. This notice was received in time for last issue but owing to limited space it did not get published. The list of experiments follows:

- | | |
|--|----------|
| No. 1—Three varieties of oats | Plots. 3 |
| 2a—Three varieties of six-rowed barley | 3 |
| 2b—Two varieties of two-rowed barley | 2 |
| 3—Two varieties of hull-less barley | 2 |
| 4—Two varieties of spring wheat | 2 |
| 5—Two varieties of buckwheat | 2 |
| 6—Two varieties of field peas | 2 |
| 7—Famner and spelt | 2 |
| 8—Two varieties of Soy, Soja, or Japanese beans | 2 |
| 9—Three varieties of husking corn | 3 |
| 10—Three varieties of mangels | 3 |
| 11—Two varieties of sugar beets for feeding purposes | 2 |
| 12—Three varieties of Swedish turnips | 2 |
| 13—Two varieties of fall turnips | 2 |
| 14—Two varieties of carrots | 2 |
| 15—Three varieties of fodder or silage corn | 3 |
| 16—Three varieties of miller | 3 |
| 17—Two varieties of sorghum | 2 |
| 18—Grass peas and two varieties of vetches | 3 |
| 19—Rape, kale and field cabbage | 3 |
| 20—Three varieties of clover | 3 |
| 21—Testing two varieties of alfalfa (Lucerne) | 2 |
| 22—Four varieties of grasses | 4 |
| 23—Two varieties of field beans | 3 |
| 24—Three varieties of sweet corn | 3 |
| 26—Fertilizers with Swedish turnips | 6 |
| 27—Sowing mangels on the level and in drills | 2 |
| 28a—Two varieties of early potatoes | 2 |
| 28b—Two varieties of medium ripening potatoes | 2 |
| 28c—Two varieties of late potatoes | 2 |
| 29—Three grain mixtures for grain production | 3 |
| 30—Three mixtures of grasses and clover for hay | 3 |

Each plot is to be two rods long by one rod wide except No. 28, which is to be one rod square. Any person in Ontario may choose ONE of the experiments for 1909 and apply for the same. The material will be furnished in the order in which the applications are received while the supply lasts. It might be well for each applicant to make a second choice for fear the first could not be granted. All material will be furnished entirely free of charge to each applicant and the produce will, of course, become the property of the person who conducts the experiment. C. A. Zavitz, Ontario Agric. College. Director.

The leading men of the town of Picton and of the surrounding county recently tendered R. M. Winslow, B. S. A., a banquet and watch on the eve of his departure for the West. Mr. Winslow has accepted an appointment on the Fruit Branch of the Dept. of Agriculture, Victoria, B. C.

Gombault's Caustic Balsam

The Worlds Greatest and Surest Veterinary Remedy
HAS IMITATORS BUT NO COMPETITORS!

SAFE, SPEEDY AND POSITIVE.
Supersedes All Caustery or Firing. Invaluable as a CURE for

- FOUNDER,
- WIND PUFFS,
- THRUSH,
- DIPHTHERIA,
- SKIN DISEASES,
- RINGBONE,
- PINK EYE,
- SWEENEY,
- BONY TUMORS,
- LAMENESS FROM SPAVIN,
- QUARTER CRACKS,
- SCRATCHES,
- POLL EVIL,
- PARASITES,
- REMOVES BUNCHES or BLEMISHES,
- SPLINTS,
- CAPPED HOCK,
- STRAINED TENDONS.

SAFE FOR ANYONE TO USE.

Finds Caustic Balsam to be Reliable. I can say that I have for the past three years been a user of GOMBHAULT'S CAUSTIC BALSAM, and have found it to be all many instances recommended for use to others—R. D. KEITH, Antigonish, N.S.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or specific mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the best proved best treatment may be of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

The Accepted Standard VETERINARY REMEDY
Always Reliable. Sure in Results.

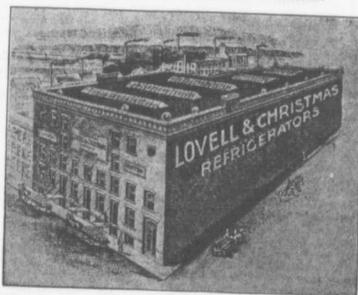


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TORONTO, ONT. CLEVELAND, OHIO.

WE HAVE

The Most Up-to-date Cold Storage Plant in Canada



STORAGE RATES ON APPLICATION. (106-112 King Street) MONTREAL
WE ARE

One of the largest dealers in Cheese and Butter in Canada and Great Britain.

Consignments Solicited

Lovell & Christmas, Limited
MONTREAL, and at London, Liverpool and Manchester.

Eastern Dairy School Exams.

The final examinations of the Eastern Dairy School were concluded Friday, March 26th. The total registration for 1909 was 61 as compared with 59 in 1908. Of these, 19 took the final examinations, both written and practical, on Cheese-Making, operat-

ing of Cream Separators, Butter-Making, Milk-Testing, Boilers and Engines, as well as written examinations on Bacteriology and Chemistry. The following 17 students were successful in passing in all subjects. First class honors, 75 per cent and over, 1. H. L. Walters, Ashton, Ont.; 2. F. G. Kendall, South Dummer,

Ont.; 3. J. M. Scott, Balderson, Ont.; 4. W. Derby, Ettyville, Ont.; 5. S. Gibson, Scotch Line, Ont.; 6. A. J. O'Hara, Rupert, Que.; 7. H. Dudgeon, Belleville, Ont. Second class honors, 60 per cent. to 75 per cent. 7. Wm. Fox, Gananoque, Ont.; 8. L. Reddick, Wallbridge, Ont.; 9. W. Plumley, Bechmont, Ont.; 10. W.

J. O'Brien, Hastings, Ont.; 11. F. Clark, Moscow, Ont.; 12. W. Horsey, Bethel, Ont.; 13. L. Doyle, Wolfe Island, Ont. Third class honors, 40 per cent. to 60 per cent. 14. D. A. O'Connor, West Osgoode, Ont.; 15. G. L. O'Hara, Rupert, Que.; 16. H. Robinson, Kingston, Ont. G. G. PUBLON, Act. Supt.

Every Safe Lock Shingle is made to meet the rigid requirements of the British Government for Admiralty and other Public Service



to proper size for Safe Lock Shingles. —The only shingle with galvanized edges.

—The only shingle sold with a positive protective guaranty against lightning, backed up by a fire insurance policy signed and sealed by the manufacturers, the Metal Shingle & Siding Company, a \$200,000.00 Canadian corporation.

Every Canadian farmer who expects to put up a new barn or house or to re-roof old buildings is directly interested in this extraordinary fire offer.

Think of it! A straight-out lightning insurance policy free from conditions of any kind. It is the most liberal roofing offer ever made to Canadian farmers.

Insurance records show that one-half the fire losses on barns in Canada result from lightning. The property loss in these cases amounts to many thousands of dollars every year.

Safe Lock Shingles have been on the market for more than 20 years, and in all that time no building covered with them has ever been harmed by lightning.

This proves to us that Safe Lock roofing is a positive guaranty against lightning. Anyway, we are willing to show our faith in Safe Lock Shingles and will protect you from lightning without one cent additional cost to you, directly or indirectly.

Safe Lock Shingles are sold at the same price as shingles known to be inferior in quality of steel, galvanizing and construction.

Safe Lock Shingles lock positively and securely on all four sides. They cannot be blown off, nor can they be pulled apart through the warping of the sheeting, or in any other way.

And remember this— No other shingle is a Safe Lock Shingle.

Safe Lock Shingles can be found in every part of the Dominion of Canada where they have been subject to storms of all degrees of severity.

No building covered with Safe Lock Shingles has ever been unroofed.

We want you to know what some of the users of Safe Lock Shingles say of them.

R. T. McLAUGHLIN, Fair View Farm, Alba, Ont.—“The ‘Safe Lock’ makes your shingles absolutely wind and water proof. They are the best shingles on the market to-day.”

F. B. DODD, Branchton, Ont.—“The Galvanized Steel roof is apparently as good as when put on in 1898. The ‘Safe Lock’ Shingles make a lasting, storm-tight roof, and give clean eastera water. ‘I am satisfied that I put on a good roof.’”

W. J. McPHERSON, Berrinton, Ont.—“The ‘Safe Lock’ Shingles that I purchased from you ten years ago have given splendid satisfaction. The roof has never leaked a drop, and they seem to be just as good as the day they were put on.”

J. C. PAYNE, Cayuga, Ont.—“It must be ten years now since I bought the metal ‘Safe Lock’ Shingles, and up to this time I have no reason to regret their purchase. We have had wooden roofs put on since which are open in spots from the splitting and shrinkage of shingles. No difficulty, so far as I have noticed at least, has arisen with your Metal Shingles, and the roof seems compact and durable. So far as I have been able to see, I have seen no wear or injury to the shingles during the ten years’ use, and cannot see but that the roof is just as good as when it went on.”

MURDOCK McKENZIE, Bear Line, Ont.—“The ‘Safe Lock’ Shingles have never given me any trouble, and they appear to be as good to-day as the day I put them on. I am well satisfied with them, as I believe them to be the best roofing that can be used on barn buildings.”

GEO. HARDY, Ashgrove, Ont.—“It will be eight years in June since the barn was shingled. I never had any trouble with it in any way, and it appears to be as good as when put on. I have been recommending your shingles as the best that can be got.”

MRS. JAMES STEWART, Pendleton, Ont.—“In reply to your letter asking about shingles I bought from you over five years ago, I looked the roof all over to-day, and they seem to be in as good condition as when they were put on the roof. The shingles don't seem to be any the worse for wear, and they will last for years.”

Send to-day for our book, “The Truth about Roofing,” and full details of our Fire Insurance Policy payable in cash if your Safe Lock Roof is damaged by lightning.

The Metal Shingle and Siding Co. Ltd.
“Roofers to the Farmers of Canada”
Dover Street Factory, Preston, Ontario
Branch Factory, Montreal

CUT OFF THIS COUPON AND MAIL TO US

My Roof measures ft. in. long

The Metal Shingle and Siding Company, Limited
Dover Street Factory, Preston, Ontario

Please send me your booklet “Truth about Roofing,” with full particulars of your Free Safe Lock Lightning Insurance Policy.

Give length of roof along ridge; also distance from ridge to eaves, and we will send approximate cost of a Safe Lock Roof.

I expect to build Kind of Building

Size of Roof If interested in any other Metal Building Goods please state such fact here.

Name P.O. Province

My roof measures ft. in.

THE British Government requires all galvanized steel roofing for Admiralty or other public work to be of specific grade and to be capable of withstanding a certain acid test.

The acids used for this purpose are strong enough to burn the skin off a man's hand, and yet the galvanizing must be heavy enough to withstand their action for a definite period.

Exposure to wind, rain and snow for a quarter of a century is much less destructive than this acid test.

Yet every Safe Lock shingle is guaranteed to meet the Government requirement in this and all other respects.

No wonder that those who have used Safe Lock Shingles declare that they will last as long as the buildings they protect.

Safe Lock Shingles are the only shingles that actually lock on all four sides so that they cannot pull apart. Shingles which do not lock on four sides are not Safe Lock Shingles.

Again: Safe Lock Shingles are the only shingles that completely protect the roofing nails from weather.

—The only shingles that have three thicknesses of steel along the upper edge of lock, thereby doubling the strength along the line of greatest strain.

—The only shingle galvanized after the sheets have been accurately cut

Utility Combined with Beauty

G

STADACONA FARM AYRSHIRES

Good at the Milk Pail and in the Show Ring

Utility Combined with Beauty

STADACONA SILVER QUEEN

—20043—

Qualified for Advanced Registry
(Certificate No. 33.)
With 6373 lbs. of milk and 303.33
lbs. of fat.

She made this record when she was two years old. She has a higher average per cent. of fat (4.76) than any other cow or heifer of any breed that qualified for advanced registry.

ALMEDA OF DANVILLE

—15282—

Qualified for Advanced Registry
(Certificate No. 1.)
With 11357 lbs. of milk and
409.95 lbs. of fat.

Her official record shows that during the first six months of lactation, she gave an average of 41 lbs. milk a day, and 50 lbs. butter a month.

STADACONA LILLY

—19257—

Qualified for Advanced Registry
(Certificate No. 19.)
With 6228 lbs. of milk and 236.27
lbs. of fat.

She made this record when she was two years old. She is Almeda's daughter, so that she could not help being a good one.

MITILE

—11529—

Qualified for Advanced Registry
(Certificate No. 5.)

With 10202 lbs. of milk and 375.86
lbs. of fat.

Her official record shows that she averaged over 30 lbs. per day during nine months.

DAISY OF WESTLAND

—21799—

Her dam, Daisy of Carlheim,
—11548—

Qualified for Advanced Registry
With 12297 lbs. of milk and 386.42
lbs. of fat.

This is a three year old heifer which gave 6458 lbs. of milk during ten months. She will qualify for Advanced Registry as she only required 6064 lbs. of milk.

MATCHLESS BEAUTY OF NETHERLEA

—19601—

Qualified for Advanced Registry
(Certificate No. 21.)
With 8845 lbs. of milk and 322.42
lbs. of fat.

She won at Quebec Provincial Exhibition in 1904, and her daughter got first prize at Sherbrooke 1908. Utility and beauty combined.

BARGENOCH HEATHER BELL

2nd (Imp.)

—17171—

Her dam, Bargenoch Heather
Bell—21396—

Qualified for Advanced Registry
With 8549 lbs. of milk and 314.92
lbs. of fat.

This young cow will be heard of at the shows next fall. She will be entered in the test as soon as she calves.

A Few of Our Records

- 1.—We sold more Ayrshires in Canada, during 1907, than any other breeder or importer;
- 2.—Our Ayrshires won silver medal for best display of dairy cattle, in 1908, at Sherbrooke, the largest exhibition in Eastern Canada;
- 3.—We sold more Yorkshire hogs in Canada during 1908 than any other breeder or importer;
- 4.—Our Yorkshires won diploma for best herd in 1903, 1904, 1905, 1906, 1907, 1908, at Sherbrooke. This includes the Dominion Exhibition;
- 5.—Our Clydesdales won silver medal for best display of draft horses, at Sherbrooke, in 1908.

ISALEIGH MISS SANDY

—23827—

Her dam, Miss Sandiland
—8034—

Qualified for Advanced Registry
With 8580 lbs. of milk and 312.57
lbs. of fat.

This is a two year old heifer which gave 5824 lbs. of milk during ten months. She will qualify for Advanced Registry, as she only required 5649 lbs.

ISALEIGH ISABELLA 2nd

—27100—

Her dam, Lady Isabella—7467—

Qualified for Advanced Registry
With 8884 lbs. of milk and 332.60
lbs. of fat.

This heifer will calve next fall and will be entered in the test for the Record of Performance.

STADACONA BEAUTY

—26624—

Her dam, Matchless Beauty
—19601—

Qualified for Advanced Registry
With 8845 lbs. of milk and 322.42
lbs. of fat.

She won third prize as a yearling at Sherbrooke in 1908 and will be entered in the test for Record of Performance as soon as she calves.

GUS LANGELIER, Cap Rouge, P.Q.

Come to headquarters for your Separator. Choice of Cone or Disc Method. The size and price that will suit your requirements. A Guarantee good as a Government Bond.

YOU know, of course, that there are two standard methods of cream separation—the cone and the disc. Naturally, there is great rivalry between the makers of these two types.

The makers of the disc type laud the merits of that type to the skies and knock the cone machines as hard as possible, while the makers of the cone type just reverse the argument.

Now, in the face of such widely different claims, how is a man or woman—how are you—to find out the truth?

Well, there is a way.

It's just this:

Ask the **EMPIRE AGENT**.

He will tell you the truth. It is to his advantage to do so, because the **EMPIRE LINE OF QUALITY CREAM SEPARATORS** comprises both types—the cone and the disc.

And the truth of the matter is this:
BOTH METHODS ARE GOOD.

But **ONE** method is better for you

Frictionless Empire

This is the original cone type separator. Like every other good thing, it has imitations. But the imitations do not approach within comparison distance of this machine.

Empire patents prevent the use of the Ball Neck Bearing and the Three Ball Bottom Bearing—so no other cone separator can be made to run so easily.

Other Empire patents prevent the use of such a simple driving mechanism—the Frictionless Empire is less likely to get out of order.

It has no closed bearings on the spindle where every other separator company puts at least one and generally two—therefore less wear on Frictionless Empire.

It runs so easily it requires a brake to stop it.

These points of superiority, with the lighter bowl, the easier-cleaned skimming devices, and the safety clutch, make the Frictionless Empire (the close-skimming wonder) the best cone separator in the world.

Complete line of sizes.

than the other. It all depends upon your requirements.

So just go to the Empire Agent in your locality and hear the **FACTS** about both types. Then—and only then—will you be able to select the method that will suit you best.

This is the only sure way to avoid the

EMPIRE Line of Quality Cream Separators

costly mistake of buying a disc separator when your requirements call for a cone, or of purchasing a cone when a disc would have suited you better.

After deciding on the method, the next step is to decide on the **MAKE**.

This is even more important than the choice of the Method, for a poorly con-

structed separator, no matter what method, is a mighty poor investment—an expense and an annoyance, to put it mildly.

In our **FREE DAIRY BOOK**, we tell you the plain, unvarnished truth about the construction and superior features of the Frictionless Empire (cone type) and the Empire Disc.

In each type we offer you the world's best separator.

Both are sold with a **GUARANTEE** as good as a Government Bond—a guarantee that **ACTUALLY** guarantees.

Both are made of Empire-Quality of materials by the same expert workmen in the

most modern separator factory in the world.

One type costs less than the other, but that is because it costs less to make.

BUT BE SURE AND WRITE FOR THE BOOK.

The Empire Disc

This machine is modelled on the lines of a disc separator that is acknowledged the best disc machine in all Europe—the home of the disc separator.

After the Empire Company secured the rights to manufacture this machine in America our expert designers were given the task of improving this separator, if possible. They did so with this result:

The Empire Disc Bowl weighs twenty per cent. less than any other disc bowl of the same capacity with the central distribution feed.

It has the simplest driving mechanism.

The discs can actually be **THOROUGHLY** cleaned.

It has the Three Ball Bottom Bearing, same as the Frictionless Empire, therefore no other disc can run so easily.

And certainly no other disc machine skims as closely as this improved European champion.

Complete line of sizes.

But request the Free Dairy Book and get complete information. Just send your request by next mail.

FREE DAIRY BOOK

Fully describes the Cone and Disc methods of Cream Separation. Gives many practical dairy pointers. Every dairyman should have a copy.

Free Trial

You can have an Empire on a liberal free trial offer if you desire.

The Empire Cream Separator Company of Canada, Limited

Western Office—Winnipeg

Head Office—Toronto