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BETTER FARMING
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COUNTRY LIFE



Toronto, Ont. January 25, 1917



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—Photo in Northern Ontario.

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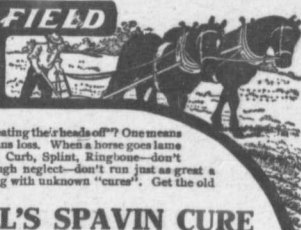
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Growing Interest in Ottawa Winter Fair

Excellent Exhibits at This Year's Fair—A Very Large Dairy Test—Display of Horses Draws Large Crowd—Dundas Wins Student Judging Competition

THE increased attendance at the Ottawa Winter Fair this year as well as the larger number of entries in important branches of the Exhibition, such as the dairy test, indicated that this exhibition is gaining in popular favor. While the attendance was at no time as large as might have been desired, it was sufficiently large to give encouraging when compared with other years. This was particularly true this year, as a patriotic motor show, held at the same time, proved a considerable rival, especially for Ottawa people. The quality of the stock shown in all sections of the exhibition showed a considerable variation, ranging from high class to inferior, but the competition was sufficiently keen to arouse considerable interest, the awards, particularly in the horse classes, being followed closely. The Duke of Devonshire, Canada's Governor General, was an interested spectator, and was introduced to some of the stock men.

The dairy test was one of the features of the exhibition, it was the largest dairy test ever conducted at Ottawa and possibly the largest ever held in the province. The premier award went to the Ayrshire grade shown by Gillespie Bros. of Spencer ville and second and third prizes to pure bred Holsteins shown by John Anderson, of Oxford Mills. Ayrshires were shown in large numbers, with Holsteins second. A full report of the test is published elsewhere in this issue.

Horse Exhibits.

As usual, interest in the exhibit of horses of all classes, was keen. Considerable crowds followed with much interest the placing of all the principal awards. There were considerable entries in the Clydesdale and Percheron classes and also a very fair exhibit of Hackneys and Standard Breds. Many of the best known and most successful exhibitors of other years were not present, but there were enough of the old timers on hand together with a number of new owners, to make, on the whole, a very good exhibit.

In the Canadian bred Clydesdales, or marcs foaled in 1915, B. Rothwell, of Ottawa, was 1st and J. F. Staples & Son, of Ida, 2nd. For marcs foaled on or after January 1st, 1915, W. F. Batty, Brooklin, was 1st, A. Goharfe, Cummings Bridge, 2nd and J. H. Earl, Ida, 3rd. In the other classes, Smith & Richardson were leading winners. Among the Shires, James Callender, of North Gower, was a successful exhibitor.

There was a large entry of Percherons, the quality of the exhibits varying considerably. The animals brought out in some classes included worthy champions and some which might better have been left at home. Among the exhibitors were T. D. Elliott, of Bolton, Ont., J. B. Hazlett, of Weston, Ont., and John Roberts, of Westboro. In the stallion class, considerable interest was taken in the placing of the premier award as the contenders included Imrie, the winner of the grand championship at the Winter Fair in Guelph last December and his stable mate, Lampré, a six year old stallion, also a previous champion. The latter captured the award.

Hackneys were shown among others by James Hill, of Beaman, A. Watson & Sons, Forest, Wm. Carnegie, Paris, Ont., W. F. Batty, Brooklin, and R. C. Rogerson, Ferris.

Competition in the best cattle class was confined among Shorthorns largely to John Brown & Son, Gall, Ont., and Kyle Bros., of Drumbo, Ont., with George B. Pritchard, Elora, and A.

Wallace, of Kars, also getting in on the prize money. In the classes for grades or crosses competition was more keen.

Sheep Awards.

Practically all the sheep classes were well filled, the leading breeds being well represented by entries from well known breeders. Shropshires were shown by J. Lloyd-Jones, of Burford, and J. R. Kelsey, who prize well divided the money, although W. A. Wallace, of Kars, also took a share of it. The prizes for Oxford were largely to J. A. Derwell and A. A. Armstrong. In Leicesters A and W. White-law of Guelph, and John Kelly & Son, Shakespeare, Ont., took practically all the awards. There were exhibits also of Cotswolds, Lincoln, Southdown, Dorset Horns, Hampshires and Sussex. The latter two classes being shown almost entirely by John Kelly & Son and A. Ayre. Ayre also showed Dorset Horns in which class he divided the honors with James Robertson & Son, of Horsby. Lloyd-Jones and Hampton Bros., were the leading exhibitors of Southdowns. Lincoln were shown mainly by Jas. Lindon, Denfield, and R. S. Robinson & Sons, Pontyfracton.

The display of poultry at the Ottawa Winter Fair has always been large and competition keen. This year was no exception, some 2,500 birds of all kinds being shown.

Grain Exhibit.

As usual, there was a very creditable display of grain, the competition being conducted under the direction of the Seed Division with an excellent exhibit staged from the standing field crop competitions. A list of the winners in this competition is published elsewhere.

Public Lectures.

The usual public lectures were conducted, although they were discontinued at the Guelph Winter Fair. The large, due in part to the interest taken in what was going on in the horse ring, but as this feature is one of the best educational features connected with the Fair, and as the lectures delivered are given wide publicity through the press, the management deserves credit for continuing them as usual.

Tuesday afternoon interesting addresses were given by W. A. Brown of the Department of Agriculture, Ottawa, who spoke on the egg situation and by L. R. Guild, of Rockwood, Ont., who dealt with the subject "Prospects for Poultry Breeding in Canada." Both these addresses will be dealt with fully in the Special Poultry Number of Farm and Dairy, which is to appear next week. The speakers should be thanked for there has been an abnormal demand for eggs and poultry and that the prospects are that these prices will continue for years to come. Mr. Guild was questioned for about an hour about his methods of raising poultry and furnished much helpful information.

Sheep Breeding.

The interests of sheep breeders received attention at the Wednesday morning meeting when Robt. Miller, of Stonyville, spoke on "The Prospects for Sheep Breeding" and E. L. Richardson, of Calgary, on "The Marketing of Wool." There is a great scarcity of sheep, not only in Ontario, but all over the continent. The prices paid for both mutton and wool have been advancing rapidly and have now reached levels little expected a few years ago. In spite of this, not nearly as many sheep are being kept as the demand warrants. They would prove

(Continued on page 12.)



FARM AND DAIRY & RURAL HOME



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

VOL. XXXVI

TORONTO, ONT., JANUARY 25, 1917

No. 4

Increasing Dairy Profits by Lowering Production Costs*

How Labor, the Biggest Factor in Production, is Saved by Keeping Better Cows, Using the Milking Machine and Growing Spring Pastures

THE rise in the price of dairy products has not more than kept pace with the increased cost of production, even under prevailing abnormal market conditions, and dairying is not as profitable as it might be. When a business reaches the point where it is not profitable, there are two ways of getting it back on a paying basis. In some lines of business the course followed is to increase the price to the consumer, but dairy farmers, because the price they receive is beyond their control, being set on the open market, can increase their profits only by cutting down the cost of production. Both the lowering of production costs and the increase of output depends largely on the way labor is utilized, for it is now scarce and dear, and is one of the controlling factors in dairy production. Dairying requires a lot of labor, and dairymen are hard hit by this scarcity. They are not blaming anyone, for they realize that there is work to be done in Europe as well as on the dairy farms of Canada. We must do the best we can with the labor we have, and on the way we utilize it depends the quantity of our output and the net returns from it. The lowering of the cost of production resolves itself therefore into the question of utilizing labor to good advantage.

Better Cows—Milking Machines.

How, then, are we to cut the cost of production in the dairy business? The most crying need is for better cows, for the poor cow is a labor waster. There is no doubt but that many of our herds could be improved from 30 to 70 per cent. in production. Another way of saving labor is to utilize the milking machine. It directly concerns the labor question, and is now a successful machine. It is not successful in the hands of every dairymen, but has proven practical in the hands of experimenters and many practical farmers. Success depends altogether on the ability of the man who handles it. It is not fool proof. It requires more brains to operate than a harrow or a stone boat, and the man who operates it, or one of his family, must be somewhat of a mechanic. During the last three years it has been successful in the hands of the majority of those using it. It will get nearly as much milk, and get it cheaper. It should not be forgotten, however, that without proper care it is the dirtiest machine on the place. It is not as clean as the cleanest-hand milker, but is cleaner than the average milker available. It now has a place as one of the labor saving machines for the dairy farmer.

The Problem of Summer Feeding.

The greatest factor in cutting down the cost of production of milk is the organization of farm

PROF. A. LEITCH, Farm Manager, O. A. College, Guelph.

labor and acreage to cut down the cost of production of the food of the cow. The most serious time for feed from the financial standpoint is not in the winter, because most of our dairy produce is turned out in the summer. Nor is it in the spring, when nature supplies abundance of rich, nutritious grasses and clovers. It is in the

summer from about July 10 to about September 15th when heat, flies and drought combine to give the cow a hard time. Not only is this summer feed shortage serious because of the reduction of the summer milk production, but also because that if a cow's yield once comes down it is impossible to bring her back to normal production, and her yield remains lower throughout the balance of her lactation period. When, late in September, the aftergrass comes on, the farmer does not get proper returns from it, and has to wait until the cow has her next calf before she gets back to full capacity.

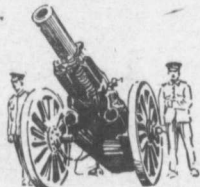
But if we are to prevent cows from drying up at this time it must be remembered that the labor used is high priced, and that if too much of it is utilized, it will cut into our profits. At the College and on other farms where accounts have been kept, it has been found that in the production of clover hay at \$10 a ton a man in the field at haying time is worth from 64 to 74 cents an hour. With some of the other crops, the cost is not so much, but it is still high. Harvesting oats is worth 24 to 28 cents an hour; harvesting barley and wheat about 30 cents, and working with mangos from 30 to 35 cents an hour. There is no time of the year when you have to be so careful about the amount of labor you put on the cows.

Methods of Summer Feeding.

Several methods of summer feeding as a supplement to poor pasture have been tried. The first I will mention is soiling, or the feeding of green crops, which are acceptable to the cows, such as peas and oats, millet or sorghum. These are cut and hauled for feeding. They are good for keeping up the milk flow, but require altogether too much labor. Another way to tide over the summer shortage of feed is to put in five or ten acres more of corn than is sufficient for winter feeding, and carry it over for use as summer silage. Both these methods are good, but there is a better and cheaper way. They use a lot of labor, worth from 30 to 75 cents an hour, which can be more profitably employed on other crops. No feed can compare with the young green growth of grass or cereal crops for milking purposes. We cannot prevent pastures from drying up, but we can provide pasture equally good by growing what has come to be known as spring pasture.

Spring Pasture Mixtures.

One spring pasture mixture that has given good results is composed of one and one-half bushels of oats; 30 lbs. Early Amber sugar cane, and six or seven lbs. of red clover, sown at the time when spring crops are put in. This is ready by the latter part of June, when the oats are six or seven



War and Live Stock

IN 1913, Germany had 24,000,000 cattle. At the outset of the war, with her marvellous industrial and agricultural efficiency, she set aside 8,000,000 head for breeding purposes. This left 16,000,000 head for feeding her people—soldiers and civilians. Into this reserve flowed the offspring of the 8,000,000 head preserved for breeding purposes and from it stocks were taken as required. This reserve is now down to 4,900,000 in spite of being constantly replenished. At the present rate of destruction, in one and a half years, Germany will be down to her last cow. The reduction of stock is also having the effect of reducing the fertility of the land and making it harder to feed her people properly. For the next three or four years after the war, she will have to use all her cattle for the purpose of building up her breeding stock.

When the war is over and men return to the land, there will in all likelihood be a large production of cereals and a fall in prices, but for years owing to the depletion of the cattle stocks of the world, there must be high prices for dairy products. They may never again reach the low levels that we have seen. It behooves us, therefore, to hold our cows, even if in poor condition. Though with high prices for feed many may lose money in keeping up their stock, it will pay to do so, for we must have enough cattle for breeding purposes to help restore the live stock of the world after the war.

*A report of an address delivered at the recent Dairymen's Conventions.

inches high. When the oats have been pastured off, the sugar cane comes along and provides two weeks' further feeding. Then the clover shows up. On warm well drained soils this pasture has given good results, but the cane seed is not easily procured, and the mixture is not well suited to all parts of the province.

A better mixture, one that is suited to all parts and one that contains only those grains of which every farmer has abundance for seed, is composed of one bushel each of oats, barley and spring wheat, with six or seven pounds of red clover seed. This is sufficient for one acre. It is sown thickly, so that it forms a mat and always has the ground covered. I have used it for four years; for two years of which I have kept accurate records to find out in dollars and cents what it is worth. By allowing an acre or even a half acre of this for each cow on the place, it can be made the biggest revenue producer of any of our farm crops.

Spring pastures take extra land, but land is the cheapest factor in farming to-day. Returns from the land are not great with cereal crops. A lot of farms with small fields, small machinery and depleted fertility, could be put to better use than competing with the rich, cheap land of the West in growing cereals, or growing common pastures that dry up when they are most needed.

Spring Pasture at the College.

At the College we have two herds of dairy cattle. One which is kept isolated from the rest consists of nine splendid producing cows of the Ayshire, Holstein and Shorthorn breeds. They are fed largely on dry feed all the year round. In spite of this handicap they have splendid records and last year produced on an average 14,000 lbs. of milk and 528 lbs. of butter fat, which is more than twice the average of production per cow in Ontario. This year we picked out nine cows of our outside herd giving the same percentage of butter fat, and having the same length of lactation period. They were not quite such good cows; giving 12,000 lbs. of milk and 460 lbs. of butter fat on the average, or 2,900 lbs. of milk and 58 lbs. of butter fat less than the others. The nine inside cows gave the return of \$1.72 for each dollar's worth of feed consumed. The nine outside cows, though they were lower producers than these, gave, during the four and a half months they were on the green pasture, \$2.10 for each dollar's worth of feed consumed, a difference of 40 per cent. in favor of the spring pasture. For the pasture months of June, July, August and September, the nine inside cows cost for feed 86 cents per cwt. of milk, and 22 cents per pound of butter fat produced. The outside cows on pasture cost for feed 45 cents a cwt. of milk and 11 cents a pound of butter fat for the same four months, or just about half as much as the others. This difference was accounted for because they gathered their own feed and saved labor when it was high in price and more profitably utilized at other farm operations.

What an Acre Will Do.

The year 1915 was a great pasture year. That season we had 36 acres of spring pasture and 50 acres of third year timothy sod, a total of 86 acres. This provided enough feed for 72 head of cattle, of which 40 were mature cows. No silage nor other feed, except a little meal, was given. Less than an acre was required for each cow. After September 1st a little second growth cow was available.

The summer of 1916 was the driest we have had at the college for 28 years. We had 36 acres seeded to a permanent pasture mixture of two pounds of alfalfa; two pounds timothy; two pounds of meadow fox tail; two pounds of tall oat grass and some clover. Besides this we had 34 acres in spring pasture, a total of 70 acres. In spite of the dry season this 70 acres carried 77 head of cattle, of which over 40 were mature animals, through the dry months. They did not

get an ounce of silage or other roughage, yet this pasture kept them till September 16th, after which they got a little second growth c'over in the day time. In spite of the drought that prevailed in Ontario we fed a larger herd and fed them better than ever before.

The clover that is sown with the spring pasture mixture is not utilized for pastures alone; it also seeds the land down for the next year's hay

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The Twice-Champion Herd*

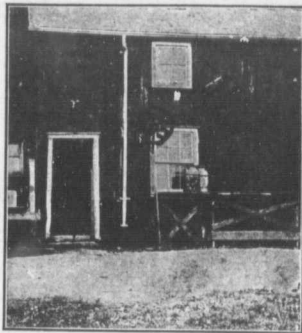
How It Was Cared For and Managed

JAS. BURTON & SON, Elgin Co., Ont.

FIFTEEN years ago our herd consisted of grade Durhams. We thought in those days any other breed wasn't much good, but as time went on we replaced some of our vacancies with Holsteins. We soon found that the general run of the Durham breed could not compare with the Holstein for high production; especially for persistency. We have not been raising any of our calves, selling them all when first born, as we thought it more profitable to buy matured cows than to rear them. This year we raised three, thinking that at the way the prices for dairy cows were soaring, it was high time for some of us dairymen to raise some. From our last year's herd of 18 we weeded out four of them, as it is always our custom every year to weed out the poor ones, replacing them to the best of our knowledge with higher producers.

As to the management of our herd care and regularity of feeding are the very essential points. We generally manage to have our cows dry for six weeks, or, preferably, two months. During this period it is our special desire to get them in as good condition as possible. A cow freshening in poor condition cannot produce like one in good heart. During the months that they are being stabled they are turned out twice daily for water and for exercise. We give them a little salt on a little chop or bran every day during this period. Some men advocate having it in a trough for them to help themselves, but we find that to be a poor way. We prefer feeding it for some cows when allowed will eat too much and others not enough. Our cows freshen in February, March and April. We feed them plenty of sugar beets along with their grain ration, composed of one-third corn and two-thirds oats chopped together. This, with clover hay for roughage gives them their diet until grass comes. About May 24 we turn them

*The Burton herd won the silver cup twice in succession as the highest producing cheese factory herd in Western Ontario. Twelve grade Holsteins and two grade Durhams produced 119,553 lbs. milk, an average of 8,549 lbs. a cow in the factory season.



External Evidence of Hydro Electric.

The line shaft extending through the wall supplies power for outside purposes on the farm of R. A. Furbale, Elgin Co., Ont.

—Photo by an Editor of Farm and Dairy.

out to grass. We still continue the grain and roots for ten days of the week. At this period last spring they were giving an average of sixty pounds a day. By this time they are pretty well used to the change from dry feed to grass, so we take the grain away from them for three to four weeks. We think during this period, while the grass is very new and juicy grain is of little use to them. About July 10 we start giving them each about three quarts of bran twice daily. A little later we start giving them about two quarts of oat chop with three quarts of bran, as by this time pasture was getting pretty dry. About August this year we turned the cows into our second growth of pasture on the hay fields, being lucky this year to cut our hay early; we were nearly through haying by July 1. The clover thus got a start before the dry weather struck us heavily. We frequently change our cows from one field to another, even if it is no better pasture. During September and October, finding that the extreme drought was getting serious, we found it necessary to increase the feed in some way, so we fed a little linseed twice daily, along with the grain ration. We had plenty of grass, such as it was, but this season being so dry it was not juicy enough for the milk supply.

In 1915 the herd consisted of 18 cows, producing in the six months from May 1st to October 31st, 7,175 pounds per cow. By weeding out to 14 and giving them more attention the production was increased to 8,540 pounds each in 1916.



A Carload of the Butter we Hear so Much About—the Product of an Alberta Creamery.

Of the total output of Alberta butter for 1916, about 1/3 as it was produced by the Edmonton creameries. Of this amount the Edmonton City Dairy, Ltd., one of whose cars is shown herewith, produced 2,520,000 lbs., or more than the entire production of the province five years ago. This was the 45th car of butter to be shipped from this creamery for the season. It was for the Montreal trade.

Echoes From the Napanee and Woodstock Conventions

The Milking Machine Is a Labor Saver

GEO. B. ROTHWELL, C.E.F., Ottawa.

THERE has been great improvement in the milking machine recently. A few years ago it was doubted if it would ever be a success. Five years ago it had many defects, but to-day it is almost mechanically perfect. There may be a few mechanical refinements still to be developed, but in general the milking machine as we have it to-day is entirely feasible. At the Central Experimental Farm we are in touch with a large number of farmers in Ontario and Quebec who have machines, and the reports from them indicate that the success of the standard makes of machines depends almost altogether upon the men who handle them. Those who know how to care for and operate them properly are getting good results. It takes some mechanical ability, however, to operate them, for they are more complicated than the cream separator. Many of them are sold without giving the purchaser a proper working knowledge as to how they should be handled. Agents should be able to give detailed information to all purchasers on this point.

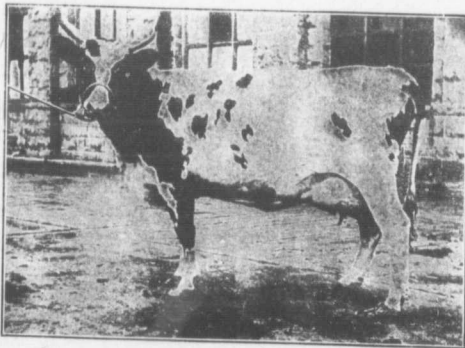
As a rule, the machine does not produce as clean milk as good clean hand milking, but it is almost as cleanly as the average hand milker. It should be kept clean and thoroughly disinfected. Of the various kinds of disinfectants that are recommended, chloride of lime has proved to be one of the best. It is an excellent germicide and does not injure the rubbers. As to whether or not machine

milking reduces the milk flow of cows, it will take several years to establish that on paper. As far as our experience goes, the milk flow is not adversely affected to any great extent, and any loss on this score is more than made up by the saving of labor. A wise precaution with the milking machine is to always strip the cows. Some cows milk out dry with it, but others do not. In cold weather we usually get bacteriologically cleaner milk with a machine than in warm; this being because the bacteria do not develop so rapidly in lower temperatures. Mechanically the milking machine is operated as satisfactorily in cold weather as in warm.

Preparedness for Buttermakers
WM. NEWMAN, Victoria Co., Ont.

UNtil a few years ago we had a market for our creamery butter in the West. It was a pretty brisk market, too, and took everything we could spare, almost regardless of quality. Then they started in to develop their own dairy business, and are now supplying their home market with the quality of butter that we cannot equal. Right now we would have been getting poor prices for our butter but for the fact that Europe met with an accident. We are getting big prices—call it blood money if you will—not because we have improved the quality of our

butter, but because of the war. Unless we improve that quality we will soon know again what it is to get low prices. To prepare for the period of keener competition, we should now be receiving more instruction than is given to us in our creameries. Outside of getting advice as to washing, salting and similar topics, no help is forthcoming. The creamery industry has risen to the place in Eastern Ontario where we should have at least one instructor going into our creameries. Among other things he could help to work out this problem of the butter grading. Creamery men are becoming awake to the possibilities of their business, and next year we will see a much larger showing of butter than has been put on this winter.



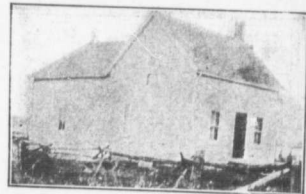
Susanna of Evergreen, a Beautiful Ayrshire Model.

In production too, she stands amongst the best. At the Guelph and Ottawa Fairs of the winter of 1915-16 she won first in the two-year-old class. In 1916 she came back and repeated her triumph in the three-year-old class at Guelph. Owned by E. R. Palmer & Son, Oxford Co., Ont.

—Photo by an Editor of Farm and Dairy.

Cream and Butter Grading Essential
W. BERT ROADHOUSE, Deputy Minister of Agriculture.

BEFORE the war Great Britain was importing 75 per cent. of her butter and 61 per cent. of her imports came from sources outside the Empire. This was largely accounted for by geographical conditions. Denmark, a great producer of butter of the finest quality, was close at hand, and much of her exports went to the great British market. Now less is coming, and it is easy to guess where her surplus is being disposed of.



One Solution of the Farm Labor Problem.

This neat and comfortable house is the home of a hired man on a farm in Prince Edward County. He and his family are comfortable and have no desire to leave their employer.

—Photo by an Editor of Farm and Dairy.

During the war and after there will be a larger and larger proportion of butter imported coming from this country. To become firmly established in the market that is opening up, it is essential that we export large quantities of uniform quality. These supplies should be drawn from all over Canada. If we look forward, we will see that it will be necessary to do more toward the grading of butter and cream. A large part of the responsibility of this rests with the Department of Agriculture, but we are anxious to do what we can in cooperation with producers, makers and those having the marketing in hand to assist in getting the creamery business on a grading basis.

Why We Object to Oleo

PROF. H. H. DEAN, O.A.C., Guelph.

THE question of legislation with reference to imitation butter, or oleo, as it is commonly called, should be carefully considered, now that pressure is being brought to bear on the federal authorities to allow oleo free entrance to the Canadian market. A leading American paper, published in Chicago, the centre of the oleo trade in the United States, says that more imitation butter was made in that city during October and November of 1916 than ever before in any two months. This looks as if the oleo manufacturers were preparing to not only supply large quantities of goods to home consumers, but also to flood the Canadian market with their imitation product. The high price of butter in Canada and the United States is the immediate cause for the activity in oleo circles.

There are three good reasons for not admitting oleo into Canada: (1) Experience proves that it cannot be so regulated as to be sold for what it is and not as butter, which is fraudulent for the consumer; (2) every pound of oleo displaces a pound or more of good pure butter, and this is detrimental to the dairy farmer's business and to the creamery industry of Canada; (3) the source of oleo is uncertain. Canada stands for pure food, but allowing that the source and sanitary condition in oleo manufacture are all that could be desired, this imitation butter lacks the "vital principles" found in butter which is essential for the growth and maintenance of Canadians and of all peoples.



Ready for the Work Go. Photographed at the School Fair held Last Fall in Odessa, Lennox and Addington Co., Ont.

Fence Buyers--Notice

Any reports to the effect that we have stopped dealing with the consumer are untrue. We are still selling the highest grade of fencing to the user direct, and we expect to continue this course. We believe the fence user has a right to buy direct from the maker, and further, we have the right to give him our best fence.

We are aware that there is an almost universal belief that mail order houses supply goods made to sell at a lower price than the regular grade, and it must be admitted that there is considerable ground for this belief.

But by giving our customers the very best article possible for anyone to produce we expect to sooner or later have it known everywhere that the Page Company sells direct to the user, and sells the same high grade fence it always sold. This policy is rapidly winning for us the fence business of Canada.

We confine our list of dealers to those known for honorable dealings and those who, selling for cash only, are able and willing to do business on a small margin of profit.

It is because so many dealers place profit first and "satisfaction to the customer" second, that we find it necessary in our own interest and that of the farmer, to do the bulk of our selling direct from factory to farm.

THE PAGE WIRE FENCE COMPANY LIMITED.

WALKERVILLE, TORONTO, MONTREAL, ST. JOHN.

New Toronto Address, 253 King St. West.

IF YOU DON'T FIND IT, WRITE US

Occasionally readers of Farm and Dairy wish to secure the address of manufacturers of farm or household equipment, but are not able to locate it in our pages. At any time our Advertising Dept. will be pleased to give you any information of this nature. Write us freely.

ADVERTISING DEPT.
FARM & DAIRY PETERBORO, ONT.



130-Egg Incubator and Brooder Both for \$14.50

If ordered together we send both machines for only \$14.50 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under slatted complete with tray. Incubators finished in natural colors showing the light grain California Electrode number one—not painted to cover inferior material. If you will purchase our machines with others, we feel sure of prompt order. Don't buy until you do \$100—your \$14.50 is sure money. It goes to investigate before you buy. Remember our price of \$14.50 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time. Write us today. **WISCONSIN INCUBATOR CO., Box 234, Racine, Wis., U. S. A.**

FREIGHT AND DUTY PAID

CITY MILK SUPPLY

Lessening Distribution Costs

"I AM glad to attend a convention in a city the purpose of which is a single organization for handling its milk supply," said Prof. H. H. Dean in addressing the W. O. D. A. Convention in Woodstock. "This is strictly in line with our progressive policy in the city milk business. We hear a great deal about the scarcity of labor and yet in every town and city of Ontario you will find practically every street has from five to 25 milk routes and half a dozen or more men are employed to do the work of one. Before the business can be put on a satisfactory basis, it is necessary to get away from this foolish duplication of milk routes.

"I am glad also that under the new management you contemplate pasteurizing the milk supply of this city. The only safe milk for consumption is that which is free from tuberculosis germs or is pasteurized. You are not neglecting this in Woodstock. One of the things, however, that has been neglected in all parts of Canada is the educating of the citizens as to the value of milk and milk products as foods. Not long ago I was at a banquet of business men where the walls was placarded with notices calling attention to the value of milk for food. In the most conspicuous place was a sign which read "DRENK MORE MILK." What we need is a strong agitation for the education of the people as to the comparative value of milk and they will not object so strenuously to paying something like a proper price for it.

"People hold up their hands in horror if they have to pay 10 cents a quart for milk, but a far more important thing than cheap milk is good milk. If they don't get good milk, they may have to lay out \$10 in the next few days for a doctor's bill, or what is worse, stuff their children with patent medicines. When people are properly educated to the value of good milk they should not object to paying a fair price for it."

Advance in Price Wanted

THE Milk Producers of New England, who provide milk for the Boston and other city markets, are already holding meetings to perfect organization, so that they will be able to obtain an advance in the price paid for their milk when the prices are set in the spring. Meetings are being held at many points, and the work of organization is being pushed energetically. Farm and Dairy received recently a letter and information from Mr. H. W. Tinkham, of Warren, Rhode Island, which shows that one reason why the farmers of the New England States are confident they will be able to obtain the increase in prices they ask for, lies in the fact that in 1906 there were over 200,000 cows in Massachusetts, which then had a population of 2,250,000. To-day there are only 146,000 dairy cows in the state, the population of which has increased to 3,700,000. Largely similar conditions exist in connection with other cities and states, and we know something of the same conditions in Ontario and Quebec.

To soften a paint brush on which paint has been allowed to dry, heat some vinegar to the boiling-point, and allow the brush to simmer in it a few minutes. Remove the brush and wash it well in strong soapuds. It will be like new.

TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF \$500, OR ANY MULTIPLE THEREOF

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA
OCTOBER 7th, 1916.

Estimating Standing Timber

A Simple Rule by Which It Can Be Done

There are still many farms on which considerable standing timber remains, and many cases may arise in which it is desirable to know how to estimate its value. It may be that the farmers desire to sell the timber to a mill owner or to wood cutters. In other cases, a man may see a chance to buy a suitable wood lot from which to secure a supply of fuel. In buying or selling land with the timber upon it, it is important that the value of this can be fairly determined, as it is one of the products of the farm that can very readily be turned into cash.

It may seem to be a difficult matter to estimate the amount of timber on a certain area while it is still standing, but in reality it can easily be done and with tolerable accuracy. In lumbering districts, the "timber cruiser" is able to estimate the amount of lumber standing on limits comprising perhaps thousands of acres. The process is one of selecting average areas, gradually reducing these by selection until a representative area is picked out. The timber on this is estimated and from this estimate the amount contained on the whole limit is calculated.

In the woodlot or bush, the same procedure may be followed. The total acreage of the lot is first ascer-

ted and again by four times the acreage of the wood lot and an estimate of the amount of timber it contains is arrived at.

As an example of how this works out in practice supposing the tree measured is 20 inches in diameter at breast height, and that it will yield three 16-foot logs. Halfway up the diameter will be 14 inches. This, affixed to the standing trees 136, which, multiplied by 0.8 gives 108.8 board feet, as the contents of the average log. As there are three logs in the tree, there will be 326 feet in it. Multiplying this figure by the number of trees on the quarter acre plot and this again by four will give the amount of lumber on each acre. From this the lumber in the standing trees of the wood lot is determined. Greater accuracy will be attained if two or three plots are measured and the amount on each determined, an average then being struck and the estimate made from this. By using the same rule for each kind of timber the amount of each can also be ascertained.

Qualifications for R.O.P.

The question often asked by admirers of different dairy cows is, "Can she be registered?" There is without doubt a value attached to the answer that can be given to this question. The value is much greater, however, if along with the affirmation of her registration she can be said to have qualified in the Record of Performance.

There are many men who own good grade dairy herds, and possibly some who own a few pure-breds, that do not rightly understand the nature and value of R.O.P. certificates. A word amiss and but of value to someone. The reason for the existence of this test in connection with dairy cows is to show the comparative standing of any individual with that of others of the same breed and age. To assist in the selection of animals for the general improvement of the breed, and to afford facts and figures that will assist the breeders in purchasing or selling animals upon their merits.

There are three essentials for the carrying on of the R.O.P. work, namely, the scales, record sheet, and Babcock test. The combination of these three, together with a good dairyman, will build a firm foundation upon which to rest the dairy industry. Below is given a condensed table of the required amount of milk and butter fat for entry in the R.O.P. records:

Holsteins.

Age.	Length of Test.	Lbs. Milk.	Butterfat.
Mature	365	10,500	357
4-Year-Old	365	9,500	333
3-Year-Old	365	8,400	289
2-Year-Old	365	7,500	255
Ayrshire.			
Mature	365	8,500	306
4-Year-Old	365	7,500	270
3-Year-Old	365	6,500	234
2-Year-Old	365	5,500	198
Jersey.			
Mature	365	8,500	337
4-Year-Old	365	7,500	297
3-Year-Old	365	6,500	257
2-Year-Old	365	5,500	217

With sires of different dairy breeds, the standard of excellence necessary to qualify them in R.O.P. is that they have four daughters recorded in the Record of Performance, each from a different dam. The important clause must be from a different dam, thus demonstrating the sire's prepotency and his value as a herd leader.

CITIZENSHIP.

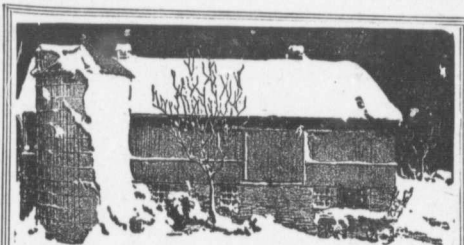
By James K. Lynch.

To keep the cans from accumulating in your back yard; to grade your own doorstep; to arrange your garden so that it will decorate the street; to keep the weeds from overrunning the road—that is to be a good citizen.

To help your neighbor in keeping his place clean; to join with him in making and mending the road; to work for better schools; to contribute towards all local activities requiring united action—that is to be a better citizen.

To put men of character and ability only in places of public trust; to support your legislators in all work for the general good; to show them that you value the due protection of our country above a Greek temple housing the village post office; to keep a large and a long view of national affairs—that is the best type of citizenship and the one most needed to-day.

timed. To find the average amount of timber an acre, "cruise" through the lot and select several one-quarter acre plots that average well up with the rest of the stand. A quarter acre tree has a radius of 59 feet. Taking a tree as a centre and using a tape, count all the trees within this radius. Of the trees on the area, select one that looks to be of average diameter and height. Measure the diameter at breast height. To obtain the amount of lumber in the tree, estimate the diameter half way up its merchantable length, using the diameter at breast height and allowing two inches taper for each 16 feet, or a decrease of four inches in the diameter. Multiply this diameter by itself, subtract 60 and multiply the difference by 0.8. This will give the approximate number of feet in the average 16-foot log. By multiplying the number of 16 foot logs that will be contained in the tree the amount of lumber will be obtained. Multiply this by the number of trees on the quarter acre plot



Next Winter When the Ground Is Covered With Snow

You will appreciate having an Ideal Green Feed Silo full of rich, juicy silage. It will make your cows produce a larger flow of milk, right at the time when dairy products are bringing the best price. Silage increases milk flow 25 per cent, and reduces feeding cost from 15 to 20 per cent. Besides, silage is so easy for you to feed. It is compactly stored under cover. No need of hauling feed in bad weather or handling snow covered fodder.

IDEAL GREEN FEED SILO

The name Ideal Green Feed Silo is worth a lot of money to us because we have made it stand for a definite reliable measure of quality in the minds of thousands of Canadian farmers. They know this silo preserves the silage perfectly and gives the longest service. A Company cannot afford to put its trade mark on an inferior article any more than you can afford to put your own crop in an inferior silo.

A trade mark to be of any value must be the identifying mark of superior quality, just as silage to be worth anything must be good silage. The man who sells a nameless, unbranded article has nothing at stake; he is not building up a reputation and using every effort possible to sustain his good name.

You have already noticed that when an article is given a name—a trade mark—by its maker, and advertised, every effort is made to no chances when you buy an Ideal Green Feed Silo. You have positive assurance that when you open up your silo you will find the silage well preserved, that you will get longer service from this silo than from any of the so-called "cheap" silos.

Write to-day for our large illustrated catalogue which shows you every detail of this silo and explains just why you get more in it for your money than in any other.

THE DE LAVAL COMPANY, Limited

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER

More Live Chicks

Zenoleum saves the chicks. Dip the eggs—and wash inside the incubator with an solution of Zenoleum. It kills all germs, makes the chicks and prevents white diarrhoea, the common cause of death. Agricultural College tests have shown.



ZENOLEUM

Zenoleum means health and comfort to older flocks by protecting them from lice and mites and to younger flocks by preventing disease in incubators where they are hatched. It is absolutely germ-killing and disinfectant. It is the only disinfectant that will supply you. It is sold in 5 lb. and 10 lb. tins. Write for folder on Diseases of Poultry.

ZENNER DISINFECTANT CO., Sandwich St., Windsor, Ont.

The Light GILSON Silo Filler

The simple, scientific method of being Clogged. The simple, scientific method of being Clogged. The simple, scientific method of being Clogged. The simple, scientific method of being Clogged.



The King of Feed Cutters

because of its remarkable elevating power, absolute safety, durability, strength and simplicity—it stands supreme. It has convenient and quick knife adjustment, self-bound cutting wheel, patented safety reverse—and is guaranteed to cut and elevate MORE ensilage with the SAME power than ANY other ensilage cutter in THE WORLD. Write to-day for catalogue and proof. Manufactured and guaranteed by GILSON MFG. CO., LTD., 197 York St., Guelph, Canada.

UNION BANK OF CANADA

52nd Annual Statement, 30th November, 1916

PROFIT AND LOSS ACCOUNT.

Balance at credit of account, 30th November, 1915	\$ 106,974.75
Net profits for the year, after deducting expenses of management, interest due depositors, reserving for interest and exchange, and making provision for bad and doubtful debts, and for rebate on bills under discount, have amounted to	651,183.67
	\$ 768,160.42

Which has been applied as follows:-	
Divided No. 116, 2 per cent., paid 1st March, 1916	\$ 100,000.00
Divided No. 117, 2 per cent., paid 1st June, 1916	100,000.00
Divided No. 118, 2 per cent., paid 1st September, 1916	100,000.00
Divided No. 119, 3 per cent., payable 1st December, 1916	100,000.00
Bonus 1 per cent., payable 1st December, 1916	50,000.00
Transferred to Creditors' Account	100,000.00
Contribution to Officers' Pension Fund	10,000.00
Contribution to British Sailors' Relief Fund	5,000.00
War Tax on Bank Note Circulation to 30th Nov., 1916	50,000.00
Balance of Profit carried forward	93,160.42
	\$ 768,160.42

LIABILITIES.

Capital Stock	\$ 5,000,000.00
Res. Account	\$ 3,600,000.00
Balance of Profit and Loss Account carried forward	93,160.42
	\$ 8,693,160.42
Unclaimed Dividends	4,913.53
Dividend No. 119, payable 1st December, 1916	100,000.00
Bonus of 1 per cent., payable 1st Dec., 1916	50,000.00
	\$ 6,647,173.95

Notes of the Bank in circulation	\$ 8,815,117.00
Deposits not bearing interest	25,122,848.51
Deposits bearing interest	50,144,940.61
Balances due to other Banks in Canada	230,396.02
Deposits due to other Banks and Banking correspondents elsewhere than in Canada	1,476,235.12
Acceptances under Letters of Credit	39,840,977.56
Liabilities not included in the foregoing	636.50
	\$109,040,338.03

ASSETS.

Gold and Silver Coin	\$ 3,151,492.26
Dominion Government Notes	6,865,529.00
Deposit with the Minister of Finance for the purchase of the Circulation Fund	200,000.00
Deposit in the Central Gold Reserve	4,750,000.00
Notes of other Banks	397,846.00
Cheques on other Banks	4,016,138.92
Balances due by other Banks in Canada	49,872.56
Balances due by Banks and Banking Correspondents elsewhere than in Canada	700,455.00
Dominion and Provincial Government Securities not exceeding market value	2,100,547.80
Canadian Municipal Securities and British, Foreign and Colonial Public Securities other than Canadian	14,445,701.09
Railways and other Bonds (Debentures not exceeding market value)	3,170,871.47
Call and Short (not exceeding 90 days) Loans in Canada, on Bonds, Debentures and Stocks	7,618,488.54
Call and Short (not exceeding 90 days) Loans elsewhere than in Canada	8,454,897.00
Other Current Loans and Discounts in Canada (less rebate of interest)	\$ 45,847,853.69
Other Current Loans and Discounts elsewhere than in Canada (less rebate of interest)	49,173,367.16
Liabilities of customers under Letters of Credit, as per contra.	846,117.56
Rent Balances other than Bank Premises	255,982.24
Mortgages on Real Estate held by the Bank	1,094,494.03
Overdue Debts, estimated loss provided for	341,262.87
Bank Premises, at not more than cost, less sundry written off	1,106,255.78
Other Assets not included in the foregoing	13,214.83
	\$109,040,338.03

JOHN GALT, President. G. H. BALFOUR, General Manager.

REPORT OF THE AUDITORS TO THE SHAREHOLDERS OF THE UNION BANK OF CANADA.

In accordance with the provisions of sub-sections 13 and 29 of Section 65 of the Bank Act, we report to the Shareholders as follows:

We have audited the above Balance Sheet with the books and vouchers at Head Office, and with the certified returns from the branches.

We have obtained all the information and explanations that we have required and are of the opinion that the transactions of the Bank which have come under our notice have been conducted in accordance with the provisions of the Bank Act.

In addition to our verification at the 30th November, we have during the year checked the cash and verified the securities representing the investments of the Bank at its chief office and principal branches, and found them to be in agreement with the entries in the books of the Bank relating thereto.

In our opinion the Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Bank, according to the best of our information and the explanations given to us, and as shown by the books of the Bank.

T. HARRY WEBB, E. S. READ, C. R. HEGGAN,
Auditors of the firm of
WEBB, READ, HEGGAN, CALLINGHAM & CO.,
Chartered Accountants.

Wentworth, 20th December, 1916.

PRESIDENT'S ADDRESS.

We have not yet reached a point when it would be wise to try to envisage what will happen in the near future, but that need not stop us from taking stock of where we stand—what have been the effects of the past two and a half years of warfare—on Canadian banks in general, and on the Union Bank in particular. The outstanding fact, of course, is the unshaken solvency of our institutions—then comes the remarkable increase in deposits—a pleasing feature of which is the growth of savings accounts, showing that the rank and file of our people are alive to the importance of spending less than they are earning.

Our banks have followed the wise course of carrying ample cash reserves, and of keeping themselves in a liquid position to enable them to meet any possible contingency, and also to do their part in financing the war expenditure of the Government. So far they have taken many millions of British and Canadian loans, and are prepared and able to take further large amounts as required. It is splendid evidence of the soundness of our banking system, and no less of the ability with which our banks have handled during these times so full of uncertainty, anxiety and peril.

And now to come to our own case. The Bank of Canada will give you its analysis of our statement, and will refer more particularly to the financial aspects. The Union Bank is now in its 52nd year, and is greeted with a small compliment. It had a hard road to travel until its management availed to the value of the great field for development which was opening up in the Northwest prairies. Seizing upon this opportunity which offered itself in the early eighties, the Union Bank proceeded to establish itself throughout the West, and by following a wise and liberal policy towards its clients, has reached a position of strength and influence that was beyond the dreams of any of us a few years ago.

The Shareholders should not be disappointed that our earnings have not exceeded those of last year, but this is entirely due to our sound policy of maintaining a strong and liquid position. This, we know, will meet with your entire approval. Your Directors have resolutely refused to countenance speculation, but they have continued the policy of assisting the Bank's clients in the legitimate expansion of their business, and have always had before them the importance of encouraging production.

London, England.

Our London office continues to show satisfactory progress. We have been established there for five years, and the gratifying increase in our business is due entirely to the wise and able advice and attention of our Advisory Committee—Major J. Leigh Wood, C. M. G., Lieut.-Col. the Hon. Sidney Peel and Mr. F. W. Ash.

With the rapid growth of our resources has come the need of improving our facilities for handling the produce of the country, and to this end it is gratifying to your Board of Directors to be able to announce to-day that we shall, in the near future, open an agency in the City of New York. Our Foreign Exchange Department has increased its business in a satisfactory manner during the past year, and the contemplated arrangement will better enable us to handle the rapidly increasing business between London, the United States and Canada.

United States.

Following our London plan, we shall have an Advisory Committee for this

bank at New York, and I am happy to inform you that Mr. Stuyvesant Fish, Mr. Cornelius Vanderbilt and Mr. Gilbert G. Thorne have consented to act upon that Committee. It is unnecessary for me to add anything further, as the names of these gentlemen are well known in Canada, the United States and abroad, and we are indeed fortunate to have worked out a programme for the future which carries with it so much promise.

We are greatly pleased to report the completion of arrangements whereby the Bank is assured of the able services of the well known firm of Carier, Leydard & Milburn, accountants-at-law, of the City of New York.

We intend to feature a statistical department in New York, through which all information concerning Canada can readily be obtained by our friends in the United States, and through which we expect to be able to quickly furnish such information as may be desired by our home friends in regard to United States affairs.

Agriculture.

Conditions generally throughout the country are far more satisfactory than could have been foreseen. The remarkable harvest of 1916 gave freight to our railroads, a market to our manufacturers and merchants, employment to our people, and showed the Empire what Canada is capable of doing towards supplying food for the world.

Last year the harvest was not so abundant, but the prices realized were so high that never in the history of Canada were our farmers, speaking generally, in such good shape financially. Every farmer has it now within his power to do a real service to the cause by bending his energies towards increasing his production of foodstuffs, which are so urgently needed by the world.

I shall not go into details of conditions in the various Provinces, as the reports of our Superintendents will appear in our annual book form. These reports have been most ably prepared and are well worth reading.

I must not conclude these brief remarks with an urgent appeal to every one who may hear or read them. We must win the war. We cannot all fight, but we can all serve the cause in one way or another. We can produce and we can economize. Remember that everything we import has to be paid for—many luxuries are still brought in which we could perfectly well do without, and each one of them makes the balance of trade against Canada so much the greater. Production, whether of foodstuffs or raw materials, is the key to economic management—these need not be empty phrases—they can and should be put into effect at once, not a moment should be lost. There are two questions which every man in Canada should ask himself—what can I do? and what have I done for my country to-day?

I have an announcement to make that I am sure you will be sorry to hear. Mr. Balfour has decided to retire from the position of General Manager after seven years of service—one should find fault with his decision to take a well-earned rest. He has filled, in succession, every post in the Bank, from that of junior clerk to General Manager, and has filled that position during the past thirteen years, which have, without question, been the most prosperous in the history of the Bank. We all feel that the remarkable progress of the institution is in no small measure due to the ability and well balanced administration of Mr. Balfour. To his personality is due also the fine tone of esprit which pervades this Institution at the present time. The story of his career should be a stimulating one to every officer in the service, as it shows the possibilities are before every able, energetic young man if he does his work faithfully and with a single eye to the welfare of the institution. During the many years I have known Mr. Balfour he has been uniformly the same courteous and distinguished gentleman. We all have a sta-



Sour Milk for Poultry

SOUR skim milk seems to be the most satisfactory food that we have for poultry of all ages. It gives little chicks a better start than anything else. It is worth while to take each little chick individually and dip its beak in sour milk before putting it into the brooder. It should be fed just as it begins to thicken and before it separates, as this is the condition in which it is most relished by the chicks and in which they will consume the most of it. It may be fed in shallow pans, covered with wire netting of one inch mesh. It is well to keep it before growing chicks during the entire season. Sour milk will mature the pullets about two weeks earlier, and put them in the best possible condition for good fall and winter production.

Sour milk is an important food for laying hens at all times of the year. It is a conditioner, and enables them to consume more feed and to make better laying records, without injuring their health, than they would without it. When fed to breeding stock during the winter, it produces a better egg production, higher fertility and higher hatchability. Stronger chicks may also be expected. The results warrant buying some skim milk for breeding stock. It is not otherwise obtainable, even if as high as two cents a quart has to be paid. So valuable is sour milk in the estimation of some of the most expert poultry men that they purchase milk powder and prepare sour milk from it.

Balanced Rations

Michael K. Boyer.

NOW, in making up a ration it is important that it contain food that the fowls will eat readily. Not food that hunger must force them to eat. The ration should have a sufficient quantity of digestible nutrients to furnish the needs of both quick growth and a good supply of eggs. It should be bulky enough so that the digestive secretions may act quickly upon it. It is not how much a fowl eats, but how much it digests, that determines the value of a food. Various classes of animals differ in their power to digest the same kinds of food. Foods also vary in their digestibility when used by the same animal. Unfortunately, the proportion of each poultry food which fowls can ordinarily digest has not as yet been determined. Therefore, we are obliged to accept the standards of digestibility which are used in compounding rations for other animals as the result of many digestion experiments. (In this case, for cattle.)

The following combinations of feeds are suggested by the Massachusetts Experimental Station as likely to produce satisfactory egg yields if judiciously handled. These suggestions are based upon results of some of their most satisfactory feeding experiments. Each combination will supply approximately the amount of food which will be needed by a flock of 22 fowls for one month. The foods in the combinations which follow are connected by the bracket which have been mixed when weighed out and have been mixed in the quantity needed from day to day. It has been the Station's practice also to mix one and a half to two pounds of powdered

charcoal with the other materials which enter into the mash.

- No. 1.
- 50 lbs. corn.
 - 14 lbs. oats or barley.
 - 10 lbs. wheat bran.
 - 5 lbs. middlings.
 - 25 lbs. cornmeal.
 - 5 lbs. beef scrap.
 - 10 lbs. cut clover.
- No. 2.
- 50 lbs. corn
 - 14 lbs. oats or barley.
 - 10 lbs. wheat bran.
 - 5 lbs. flour middlings
 - 28 lbs. cornmeal.
 - 7 lbs. animal meal.
 - 10 lbs. cut clover.

The Man Feeding Method

Michael K. Boyer.

THE method of feeding at the Maine Experimental Station, is as follows: Early in the morning, for each 100 hens, four quarts of screened cracked corn are scattered on the litter, which is six or eight inches deep on the floor. This is not mixed into the litter, for the straw is fed and light and enough of the grain is hidden so the birds commence scratching for it almost immediately. At 10 o'clock they are fed in the same way, two quarts of wheat and two quarts of oats. This is all of the regular feeding that is done.

Along one side of the room is the feed trough, with its slatted front. In it is kept a supply of dry meals mixed together. This dry meal mixture is composed of the following materials, 200 pounds good wheat bran, 100 pounds cornmeal, 100 pounds middlings, 100 pounds gluten meal or brewers' grain, 100 pounds linseed meal, and 100 pounds beef scrap. About five pounds of clover hay cut into half-inch lengths is fed dry daily to each 100 birds in winter.

The average amounts of the materials eaten by each during the last year are about as follows:

- Grain and the meal mixture, 90.0 pounds.
 - Oyster shell, 4.0 pounds.
 - Dr. cracked bone, 2.4 pounds.
 - Grit, 2.0 pounds.
 - Charcoal, 2.0 pounds.
 - Clover, 2.0 pounds.
- The hens averaged laying 144 eggs each. Alfalfa and clover were found the most satisfactory green feeds for summer. The free use of rape is believed to make the yolks of the eggs greenish when boiled.

The Poultry Mite

THERE are at least 18 different species of mites parasitic on fowls. Some of these are merely blood sucking insects, while others cause infections of the skin. Fortunately, only three or four become serious pests as a usual thing. The common poultry mite is one of the blood sucking insects, and one of the largest species, being plainly visible to the unaided eye. The females are about one-third sixteenth of an inch in length, and the males slightly smaller. The color varies from whitish yellow to blood red when fully engorged.

Mites have the habit of congregating in bunches and under certain conditions the abundance of them almost passes belief. They are not permanent parasites, but are nocturnal in habit; attacking the fowls at night, but forsaking them in the morning throughout the cracks and crevices and hiding in the poultry house during the day. They swarm over the fowls at night and gorge themselves with blood, causing irritation with accompanying loss of rest and sleep. They can live a long time without food, and have been kept alive for three months without nourishment. Instances have been known of their having existed in some poultry houses throughout a season.

The eggs are laid in the hiding

places of the mites, sometimes several eggs being piled together in a bunch. They hatch in from four to five days, the young mite being whitish in color and very active. There are several generations in a warm season, and they increase with exceeding rapidity. If a house is of the older type and not too valuable, with a large number of crevices and cracks in the walls, and it has become thoroughly infested, it may pay to destroy it entirely and to build a new one. In any case, the perches and nests should be torn out in order to facilitate the application of insecticides. The next thing to do is to clean the walls and floors by giving them a thorough sweeping. The inside of the house should then be sprayed with a thoroughly infested insecticide such as zenoleum or other coal tar product. It is best to begin at a certain place and go over the walls and floor, applying the insecticide with considerable force by means of a pump and not stopping until every square inch is covered. The liquid should be forced into cracks and crevices. As some eggs are sure to escape, and as there are but in four or five days, it is wise to repeat the operation a week later.

HORTICULTURE

Orchard and Garden Prunings

PLANT more evergreens about the home. There is nothing much prettier than a well-grown spruce, the branches of which are partly covered with snow, after a hard snowfall in early December. Have you ever noticed the effect of snow on the branches of spruce on a clear moonlight night in winter?

Is your school ground going to be provided with a good wind break or with a good variety of spring and autumn flowering shrubs this year? Now is a good time to think and plan about it. Why not interest the teacher and pupils and a few of the neighbors? It is worth trying.

House plants need fresh air and clean skins just as much as human beings. Hence they soon become etched in hot, dry, dusty rooms. Spray or sponge their foliage once in a while and see that there is plenty of moisture in the air at all times.

Is that bird shelter and feeding station working well? Birds like soft and bread crumbs. They will soon make regular trips where these are to be found, once they begin.

Sometimes in order to get the best growth from a tree it must be fed by cultivating well-rotted manure into the soil or by using liquid manure during the best growing season.

Plan the garden and order the seeds needed for it. Remember some seeds will be hard to get, and those who order early are more likely to receive what they want.

When planting a commercial orchard, set enough trees of a kind to sell by the carload or in large quantities. It does not pay to potter with small lots of many varieties.

Watch for rabbits in the orchard. Get the rabbit before it gets your trees. Tramp the snow well around each tree to discourage mice working under the crust.

Do not put too much water on plants in a dark weather or let them become dry or suffer from want of water.

Fancy seed for early plant should be sown in the greenhouse now. Use only good strains of seed.

Experience in handling, and a sincere love of plants are essential in growing house plants.

A potted plant or bouquet of flowers makes a good birthday gift.

What's on the Fertilizer Bag?

Does your manufacturer print on the fertilizer bag, how much immediately available nitrogen (viz., Nitrates) it contains? Many do not.

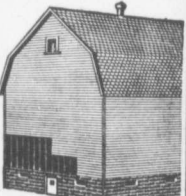
Home mixing is the safe, economical method. Mix your own fertilizers and know what you get.

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'Metallic' Clapboard Siding

YOU can quickly run up a neat, strong building—fire-proof and weather-proof—with Metallic Clap-board Siding. You have money—wood sheeting is waste money—wood sheeting is not needed, the Clap-board being nailed right on the studs. Outlasts the building it is put on.



"Metallic" Clapboard Siding

Made in heavily galvanized sheets 8 ft. long. Very easily handled. Far cheaper and more durable than wood. No knots or cracks and doesn't soak up paint.

Nailheads are sheltered from the weather (see small picture at right). Don't invite fire with wooden walls, etc. Use "M.R. Co." Clap-board Siding. "Eastlake" Galvanized Shingles, Ventilators, etc.

"Emboss" Corrugated Iron, "Metallic" Columns, Posts and Iron-Troughs, "Metallic" Siding, Roof Lights, Frames, Finishes, etc.

Write us to-day for prices and illustrations.

METALLIC ROOFING CO. LTD.
TORONTO & WINNIPEG

An Ayrshire Grade Wins Ottawa Dairy Test

THE dairy test at the Ottawa Winter Fair last week had a larger number of entries than any previous test conducted at Ottawa, and was said by some of those present to have been the largest ever held in the province. About 90 animals competed, including some 25 Ayrshires, 22 Holsteins, 8 Short horns, 8 Jerseys and 25 grades. The winner furnished a surprise, the award falling to an Ayrshire grade owned by Gillespie Bros., of Sherburne, which scored 281.14 points. The champion was a tidy little animal of good conformation, and has been bred along Ayrshire lines for so long that she is practically a pure bred. Second and third places went to pure bred Holsteins, shown by John Anderson, of Oxford Mills, with scores of 275.18 and 259.07. Fourth to Dowler Bros., of Billings Bridge, on a grade cow, scoring 238.36; and fifth place to Lady Jane, a pure bred Ayrshire shown by J. H. Turner & Sons, Ryckman's Corners, with a score of 252.56.

It will be noticed by the foregoing that the competition between the dif-

ferent breeds was particularly keen between the Ayrshires and the Holsteins. The best score made by an animal was taken by an Ayrshire, shown by S. W. Jackson, of Ottawa, totalling 183.04; and on Jerseys by a Jersey shown by B. H. Bull & Sons, of Brampton, which scored 180.90.

Herewith is published a table of the winners in the different classes. It will be noticed that a number of new exhibitors were out in all the classes, several of them making very creditable scores. The accommodation for the dairy cattle at the Ottawa Winter Fair is of the very best. This year the officials who conducted the test gave the greatest satisfaction because of the efficiency they showed and the expeditious manner in which the work was done. There were some delays in the tabulating of the scores, and some errors in them when first announced, which proved somewhat annoying, as they changed the standing of some of the animals, but these were not the fault of the men who conducted the test.

THE OTTAWA WINTER FAIR DAIRY TEST.

AYRSHIRES—Cows 48 months or over.

	Points	Age	Total
1.—A. S. Turner & Son, Ryckman's Corners, Ont.	281.14	10	331.14
2.—E. B. Palmer & Son, Norwich, Ont.	201.6	2.20	203.8
3.—Jas. G. Wilson, Stottville, Que.	161.1	7.33	227.42
4.—R. T. Brownlie, Sherburne, Que.	157.7	6.62	210.32
5.—A. S. Turner & Son, Ryckman's Corners, Ont.	137.7	6.62	210.32
6.—Gillespie Bros., Sherburne, Ont.	125.5	6.27	191.77
7.—H. C. Hamill, Markham, Ont.	127.9	6.33	208.40
8.—H. R. Ness, Howick, Que.	125.5	6.27	208.40
9.—E. B. Palmer & Son, Norwich, Ont.	109.8	6.27	179.16
10.—A. S. Turner & Son, Ryckman's Corners, Ont.	126.9	5.98	186.09
11.—Gillespie Bros., Sherburne, Ont.	127.6	5.66	191.77
12.—R. T. Brownlie, Sherburne, Ont.	126.9	5.99	172.1
13.—Hector Gordon, Howick, Que.	115.4	5.14	140.51

Cows 36 months and under 48.

1.—S. A. Cleland, Hemmingsford, Que.	152.5	6.71	209.17
2.—Hector Gordon, Howick, Que.	146.3	5.79	199.57
3.—A. S. Turner & Son, Ryckman's Corners, Ont.	141.7	5.79	199.57
4.—H. C. Hamill, Markham, Ont.	144.0	6.73	214.56
5.—H. R. Ness, Howick, Que.	114.5	4.49	144.38
6.—E. B. Palmer & Son, Norwich, Ont.	141.7	5.79	199.57

Heifers under 36 Months.

1.—Gillespie Bros., Sherburne, Ont.	116.8	5.30	167.40
2.—E. B. Palmer & Son, Norwich, Ont.	112.4	4.09	137.88
3.—A. S. Turner & Son, Ryckman's Corners, Ont.	91.7	3.93	138.30
4.—H. R. Ness, Howick, Que.	91.7	3.93	138.30
5.—H. R. Ness, Howick, Que.	91.7	3.93	138.30
6.—H. R. Ness, Howick, Que.	91.7	3.93	138.30

HOLSTEINS—Cows 48 months or over.

1.—John Anderson, Oxford Mills, Ont.	267.3	8.87	375.18
2.—John Anderson, Oxford Mills, Ont.	264.6	7.66	359.07
3.—Ed. Baker, Winchester, Ont.	230.8	7.72	248.49
4.—Cummings & Gosselin, Cambridge, Ont.	218.9	6.78	231.49
5.—W. J. Bailey, Jarvis, Ont.	181.1	6.68	214.48
6.—A. E. Hulet, Norwich, Ont.	172.3	6.53	209.41
7.—Henry Walsh, Sherburne, Ont.	143.2	5.77	185.13
8.—A. E. Hulet, Norwich, Ont.	137.1	5.77	185.13
9.—Henry Walsh, Sherburne, Ont.	146.8	5.17	166.64
10.—Henry Walsh, Sherburne, Ont.	146.1	4.93	165.65

Cows 36 months and under 48.

1.—Martin McDowell, Oxford Centre	192.0	6.65	230.23
2.—W. J. Bailey	156.6	5.90	178.31
3.—E. Hulet	156.6	5.90	178.31
4.—Ed. Baker	181.6	4.92	164.97

Heifers under 36 months.

1.—A. E. Hulet	182.3	5.66	176.72
2.—Martin McDowell	160.6	4.92	162.79
3.—J. T. Castator, Weston, Ont.	155.2	4.70	160.86
4.—Hopkins Bros., Sherburne, Ont.	139.4	4.68	148.68
5.—Hopkins Bros., Sherburne, Ont.	129.6	4.46	145.78
6.—B. V. Bailey, Hagersville, Ont.	75.3	4.23	126.45

JERSEYS—Cows 48 months or over.

1.—B. H. Bull & Son, Brampton, Ont.	194.4	5.68	189.50
2.—B. H. Bull & Son, Brampton, Ont.	124.7	5.20	160.96

Cows 36 months and under 48.

1.—B. H. Bull & Son	87.4	4.51	128.63
2.—B. H. Bull & Son	91.1	4.03	127.81

Heifers under 36 months.

1.—B. H. Bull & Son	78.5	4.14	126.01
2.—B. H. Bull & Son	85.9	3.73	119.27

SHORTHORNS—Cows 48 months or over.

1.—S. W. Jackson, Woodstock, Ont.	183.0	5.65	183.04
2.—Jacob Lerch, Preston, Ont.	124.6	4.89	149.94
3.—A. Stevenson, Sherburne, Ont.	124.6	4.89	149.94
4.—S. W. Jackson	112.0	4.21	126.31
5.—A. Stevenson	102.7	4.10	121.48

Cows 36 months and under 48.

1.—S. W. Jackson	117.7	4.85	153.59
2.—S. W. Jackson	101.5	4.18	138.96

Heifers under 36 months.

1.—S. W. Jackson	137.0	4.14	142.92
2.—A. Stevenson	78.0	3.18	106.78

GRADES—Cows 48 months or over.

1.—Gillespie Bros.	168.9	9.45	281.14
2.—Dowler Bros., Billings Bridge	146.8	2.88	174.88
3.—T. P. Charlson, Ottawa	144.6	4.88	225.34
4.—A. E. Hulet	137.9	6.80	224.68
5.—J. T. Spratt	127.9	6.80	224.68
6.—Cummings & Gosselin	107.1	5.16	114.96
7.—E. B. Palmer & Son	106.9	5.36	112.68
8.—Dowler Bros.	106.6	5.36	112.29

9.—A. E. Hulet	160.3	5.46	180.88
10.—R. T. Brownlie	149.3	5.68	180.37
11.—Jacob Lerch	142.7	5.68	176.61
12.—Ed. Baker	174.0	4.77	161.88
13.—Ed. Baker	140.1	4.99	161.50

Cows 36 months and under 48.

1.—T. P. Charlson	150.4	6.92	217.50
2.—W. J. Bailey	177.8	6.20	199.80
3.—A. E. Hulet	157.9	6.20	199.80
4.—T. A. Spratt	157.9	6.20	199.80
5.—W. J. Bailey	157.9	6.20	199.80
6.—Ed. Baker	138.9	5.68	180.61
7.—Dowler Bros.	131.9	5.68	180.61
8.—Jacob Lerch	138.8	5.37	174.16
9.—E. B. Palmer & Sons	133.3	5.12	163.82
10.—Jacob Lerch	96.2	3.72	119.49

Heifers under 36 months.

1.—T. A. Spratt	138.8	5.05	173.29
2.—A. E. Hulet	147.0	4.87	158.87
3.—W. J. Bailey	126.6	4.87	158.87
4.—W. J. Bailey	126.6	4.08	138.41
5.—Dowler Bros.	126.6	3.92	132.78

Growing Interest in Ottawa Winter Fair

(Continued from Page 2.)

A very profitable side line on many farms.

Horse Breeding.

The prospects for horse breeding in Canada, but more particularly in Ontario, were dealt with by John Bright, Dominion Live Stock Commissioner. Mr. Bright showed that an ever larger number of horses were shipped from Ontario to western Canada last year than he had predicted would be the case, a year ago. Some 8,000 left Ontario for that destination. While there are still many inferior animals in the province that are not fit for military purposes and therefore are hard to dispose of, there is a great shortage of good animals and prices for them in consequence are high. Mr. Bright warned horse breeders that unless they greatly increased the number of animals raised in Ontario the demand for horses will result in the introduction of the light tractor, which may in time become a competitor on the horse. The important announcement was made that in order to encourage the breeding of more horses, the Dominion Government has decided to pay 40% of the service fees when farmers breed their mares to approved stallions. It is understood that further particulars concerning this offer will soon be made public. So keen is the demand for horses in Great Britain that to-day animals of a class of which there used to be scores shipped to Canada each year, are now being used as draft horses and are earning more money than they used to cost Canadians to purchase.

Dairy Cattle Prospects.

Mr. E. S. Archibald, of the Dominion Experimental Farm, Ottawa, spoke on the prospects for dairy cattle breeding. This address, as well as Mr. Bright's on horse breeding, will be published practically in full in a later issue of Farm and Dairy. Mr. Archibald showed that while the backward dairy farmer is finding it hard to make headway in view of the increased cost of production, prospects for the progressive dairy farmer were never brighter. The great shortage of all meats has compelled a large proportion of the world's population to replace these with dairy products, particularly cheese and milk, with the result that this has created a great demand for good breeding dairy cattle, as well as for dairy products. The prices may be expected to rule high for another ten years. For this reason, on dairy farms should prepare for the after-the-war trade by refusing to sell good breeding stock. Mr. Archibald claims that the cost of producing milk at the Dominion Experimental Farm in the case of cows producing 5,700 lbs. of milk a year, (using 3.65¢, was \$178 per 100 lbs. at the new year's start. This cost showed the importance of farmers keeping only cows that could be fed at a profit. The speaker suggested various ways in which the cost of production could be reduced, including the production of cheaper feed, the

use of better farm machinery, the using of the best pure-bred sires obtainable, better feeding, the grading of dairy produce and greater cooperation on the part of the farmers.

Inter-Judging Competition.

Keen interest was taken in the inter-judging competition. Students were present from 12 counties in all parts of Eastern Ontario, ranging as far west as Peterboro county. First place went to the Dundas team, second to Lanark, while Peterboro stood third and Carleton fourth. Will Barrie, R. F. No. 2, Norwood, of the Peterboro team, stood highest of all the competitors in judging dairy cattle.

Standing Crop Competition.

Competitors each of York county in the standing field crop competitions were eligible for competition at Ottawa. The awards were as follows: Oats; Geo. Brown, Millbrook, R.R. 3; Deep Drop; J. Thos. Seifera, Zephyr, Abundance; J. J. Baker, Hampton, R. 1, O.A.C. 17; A. Fletcher, Walker, Royton, R. 4; Harry; S. T. Baker & Son, Hampton, O.A.C. 17; G. C. Ovington, R. 4; Spring No. 2, O.A.C. 17; D. I. Rose, Frankford, R.R. 2; O.A.C. No. 21; S. C. Ovington, Belleville, R.R. 2, O.A.C. No. 21.

Spring Wheat; 2. Robt. Jones, Cobden, R.M.D. Marquis; 3. Peter Wilson, Cobden, Marquis; 4. E. O. Collins, Kinburn, H. Marquis; 5. E. O. Collins, Kinburn, H. Marquis; 6. Full Wheat; 1. D. Hetherington, Robycon, Sheep and I'F Pay the Rent; 2. Charles Clark, 1 John Adams, Oxdrift; 3. Fred T. Bragall, Oxdrift; 4. Frank James, Oxdrift.

A Farm of Seven Rules

Successful Farming tells of a traveller who discovered the following order for judging a farm to a farm. Perhaps it is an ideal, but it is worth striving for:

Don't Worry Farm.

A Farm of Seven Rules.

1. We have faith that, one year with another, nature is bountiful and kind.
2. Acting upon this faith, we keep our soils deep and mellow and rich and well drained; so that they have moisture and strength to tide over drouths and capacity to absorb floods.
3. We diversify and rotate our crops, every season in some fields, after many seasons in others, so that if nature's ways disconcert one crop they must smother others into plentiful harvests.
4. We sell where and when the world wants our products, and store when it doesn't need them.
5. We strive for permanence in soil and buildings because our plan includes the future as well as the present.
6. We farm for the love of it first, and to make the most of it second, and the part of the world which has no land may eat from the bounty of ours.
7. Because of these our aims, we believe a necessary way to success is to prosper, and difficult to be unhappy.

Nova Scotia Dairy Convention

The Annual Convention of the Dairymen of Nova Scotia and the Winter Dairy Exhibition was held at the Agricultural College, Truro, on Jan. 3 and 4. Delegates were present from nearly all of the creameries of the province and from some of the cheese factories. The reports of the different officers showed that much progress had been made in cooperative dairying during the year. The greatest gain of any one year was made in the output of the creameries, they having made 1,686,579 lbs. of butter, at a value of \$695,734.88, an increase of \$2,179 lbs. over 1915. Cream grading was introduced in the year with satisfactory results. Three new creameries during the year were registered and two registrations were cancelled. A number of successful creamery picnics were held with a good attendance. The Dairy Division of the Department of Agriculture conducted a Nova Scotia Government Creameries booth at the Provincial Exhibition, which was much appreciated.

Addresses on different phases of the dairy business were delivered by the President, Mr. D. W. Murray, Prof. W. J. Mitchell, Fredericton, N. B., the newly appointed director of the Live Stock and Dairy Division for the Province of New Brunswick, Joseph Burgess, of the Cold Storage Division, Ottawa, and others. Resolutions were passed asking the Dominion Department to continue the restrictions on oleomargarine as they at present exist; that the grading of cream be adopted in all the creameries of the province; that the directors use their efforts to have a more uniform butter box; that the Dairy Exhibition be enlarged during the coming year and other questions of interest to dairying.

The officers elected for the ensuing year were as follows: President, D. W. Murray, Scotsburn; Vice-President, A. M. Wheaton, Wolfville; Secy-Treas., W. A. MacKay, Truro; Directors, C. R. DeLong, New Germany; Alex. Cameron, Lower South River; Harold Falconer, Stellarton; Auditor, C. H. B. Bryan, Truro.

The convention was acknowledged to be the best yet held and much optimism was expressed for the future of the dairy business in Nova Scotia.

Champion Trophy Created Much Interest.

At the Dairy Exhibition held in connection with the convention much interest was taken, especially in connection with the competition for the Champion Trophy presented by the butter buyers, and won by the LaHave Creamery Company, Ltd., Bridgewater. A partial list of the prize winners appears herewith:

- Section 1.—Scotsburn Creamery Co., Scotsburn, score 92.8; LaHave Creamery Co., Bridgewater, score 93.1; Antigonish Dairy Co., Antigonish, 93; J. R. Swenson, Margaree Forks, 92.
- Section 2.—LaHave Creamery Co., 96.1; Scotsburn Creamery Co., 95; Acadia Dairy Co., Wolfville, 95.7; Brookfield Creamery Co., 94.9.
- Section 3.—LaHave Creamery Co., 96.1; Acadia Dairy Co., 96.1; Scotsburn Creamery, 95.1; Brookfield Creamery Co., 95.7.
- Section 4.—Butter Scoring Contest, J. D. McKennie, Bridgewater, 8.9; C. J. Parker, N.S.A.C., Truro, 9.0; Harold Falconer, Stellarton, 6.0; Alex. Cameron, South River Station, 4.0; Alvin Graham, Scotsburn, 2.0.

- Special Prizes.**
- Section 5.—Windsor Dairy Special: LaHave Creamery Co., 12.00; Scotsburn Creamery, 10.00; Acadia Dairy, 5.00; Brookfield Creamery, 4.00.
 - Section 6.—De Laval Dairy Supply Co. Silver Trophy, Value \$25; Brookfield Creamery Co.
 - Section 7.—C. Richardson & Co., Scotsburn Creamery, Trophy, value \$10.
 - Section 8.—R. Ford Company, Elgin Movement Watch; Scotsburn Creamery Co.
 - Butter Buyers' Trophy, Value \$15; LaHave Creamery Co.

To grow one's own vegetables, to nurse one's own fowls, to rear one's own chickens, to milk one's own cow—and to keep one's own carriage. This is to be personally acquainted with the universe.—Froude

Protein is the most expensive ingredient in foods, being especially

costly in meats. It is exceptionally abundant in milk. For this reason milk is a suitable food to balance a diet rich in starches, sugars and fat such as would result from the use of only cereals, fruits and vegetables. At ordinary prices skim milk at 10 cents a quart would be more economical food than meat.

The teacher's last question was meant to be a scientific poser. "What is that which pervades all space," she said, "which no wall or door or other substance can shut out?" "No one had an answer ready but Freddy Sharpe. "The smell of onions, Miss," he said, promptly.



Greatly Pleased With the Machine

My stump run from 6 inches in diameter up to 20 inches and the largest stump I pulled took about ten minutes, the soil being very hard and dry. The KIRSTIN is alright and I am well pleased with it. J. E. ARSENAULT, Dalhousie, N. B.



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Yank Out Those Stumps!

A Guaranteed Saving of from 10% to 50%

The rich crop pictured above, is growing on what was a tax-cutting stump field. The owner got it ready for the plow the Quickest, Cheapest and Best Way—with the Kirstin Method.

Thousands of farmers have increased the productive value of their land a hundred-fold by clearing the Kirstin way. You do the same. Stop paying taxes on worthless stump fields; make them earn money for you—get a

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There is a machine for every need, from the smallest land clearing job to the biggest. Every customer is given a Guarantee Bond cheaper than any other. Kirstin Puller is guaranteed trial, and your money is refunded if our guarantee does not deliver the goods.

No stump is too big for the Kirstin Horse Power Puller. Its mighty strength is irrefragable because of its triple power and other exclusive Kirstin features. It will clear more than two acres at one setting without strain to man, horse or machine. It has been a leader for 21 years.

One man without horses can pull the biggest stump, too, with the Kirstin One Man Stump Puller. A little push on the handle

gives tons of pull on the stump. This enormous power is developed by use of double leverage. It gives an ordinary 12-horse-hold power a giant's power.

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"The Gold in Your Stump Land." Write today. You be the judge, and the letters from farmers who have bought Kirstins are sent to them. Look at the photographs of the immense stumps and trees they have pulled; of the rough, barren and broken they have moved. Learn how, after clearing your land, you can make money by renting your Kirstin to your neighbors. Learn about Kirstin Service, forever free to all Kirstin Owners. Don't buy a puller until you read this book.

Big Money to those who Order Early We offer you a special opportunity to join our Profit Sharing Plan. No canvassing. Just a willingness to show your Kirstin to your neighbors. Send a "I will—send the coupon today. Be the first to share in this big money making plan.

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FARM AND DAIRY

AND RURAL HOME
PUBLISHED EVERY THURSDAY

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

Picking Out the Producers

TAKING RECORDS of the ten best and of the ten poorest cows of a dairy record centre in eastern Ontario, in which about 800 cows are under test, Mr. Chas. F. Whitley, who has charge of the dairy record work of the Dominion Department of Agriculture, finds that each one of the best cows showed as much profit over the cost of feed consumed as twenty-five of the poorest. The good cows produced milk for sixty cents a hundred less and butter fat for 13 cents a pound less than the poor ones. In the Listowel record centre an increase in milk production of 83 per cent. was recorded in one herd of nine cows as a result of four years' testing. Three other herds in the same centre showed increases of over 50 per cent. for the same period. At another point in the province, a dairy farmer showed by records that last June he obtained as much cash from six cows as his neighbor did from nineteen. Is it any wonder that Mr. Whitley, with its figures as these coming to his office, is enthusiastic in furthering the work of cow testing?

The details were recently published of a case in which two cows of similar general appearance and conformation were fed in the same way for a year. The first consumed \$64.15 and produced 249 pounds of butter fat, valued at \$74.07, leaving a balance of \$10.92 out of maintenance. The other consumed \$68.50 of feed, producing 287 pounds of butter fat, valued at \$116.10, giving a balance of \$47.60 above maintenance cost. For his labor, therefore, the owner received nearly five times as much from one cow as from the other, though they looked the same.

You cannot tell by the looks of a frog how far he will jump, runs an old saying. Neither can you tell by the looks of a cow how far she will go in the making of cash returns. The scales and the Babcock test are the tribunal at which the merits of the dairy cow must be tried. The department, through Mr. Whitley and his staff, is rendering a valuable service to the dairy farmer in placing at his disposal facilities for arriving at a true esti-

mate of the value of each individual cow in his herd as a producer of milk and butter fat. It will pay him handsomely to take advantage of this cooperation in appraising the value of his cows.

In Union There is Strength

THE power of the farmers, when organized so that their united strength can be brought to bear in the settlement of unsatisfactory conditions under which they labor, was well illustrated in the situation that developed recently in the corn trade. The railways, facing a freight congestion which had developed out of a scarcity of freight cars, sought to relieve the situation by placing an embargo on the movement of feed corn east from Chicago. While releasing cars for other traffic, this demoralized the corn trade, which is so important to Ontario farmers in this period of feed shortage. The United Farmers' Cooperative Company, which has developed a flourishing trade in corn, found it impossible to fill the orders that were pouring in from the farmers' clubs throughout the province, and the pinch of the feed shortage was being severely felt. Believing that freight cars could be put to no better use than moving feeding stuffs so much needed by the farmer, Manager Gurney of the central company took the matter in hand. Wires were despatched to the Chairman of the Railway Commission and to the Minister of Agriculture, pointing out the urgency of the situation, with the result that matters were immediately taken in hand and that 30 cars of corn were at once moved forward from Chicago.

This instance of the way in which the farmers' company is serving their interests illustrates the effective work that can be done through organization. Where would the farmers of Ontario have stood in this case if they had not had an organization fully acquainted with their needs and with the details of the feed trade? Rather than serving their interests and getting the corn moved forward, the trade would likely have taken advantage of the situation to boost the prices of feed on hand. Instead of submitting to this exploitation, the united strength of the farmers was brought to bear on the situation, and in 48 hours relief had been promised and the corn was moving. In union there is strength.

Theory vs. Facts

THEORIZING at long range is an uncertain undertaking, even for authorities. Prof. Gide, the eminent French economist, in his "Principles of Political Economy," states that property in land has innumerable advantages and no disadvantages in a new country still in the earliest stages of its economic development. In such countries, he explains, the soil under private ownership represents but a fraction of the whole soil; land is therefore subject to the law of competition and does not constitute a monopoly.

Experience in Western Canada does not substantiate Gide's contention. When only a small fraction of the arable land was brought under cultivation, the most accessible of it had been brought under private control. Two of the results of this were the establishment of settlements far from transportation facilities, where agricultural operations were carried on under disadvantages so enormous as to render the labor of the settlers ineffective in contributing to national wealth; and the destruction of ranching, the only type of agriculture that could be carried on economically under such circumstances. Settlement was extended to districts that never have and never will be utilized to such good effect as they were by the ranchers: Hilly, broken land; land far up in the foothills above the summer frost line; districts that will not for a generation, if ever, be properly served with railway facilities. Were taken up by the homesteader who, to satisfy his land hunger, threw judgment to the winds and took advantage of his rights to encroach on the

ranges of the rancher and to destroy his business. The results are as would be expected. It is estimated that there are now \$15,000,000 of natural grasses going to waste annually in Alberta alone. Countless train loads of the choicest beef might now be going to the seaboard for export to feed the armies of the Allies from districts that now produce little or nothing, but in which cattle and sheep ranching once flourished. Very early indeed in the agricultural development of the new country does the disadvantage of private property in land appear, and its baneful effects are quite as obvious in the new as in the more advanced stages of agriculture.

The Pasteurization Clause

MUCH of the objection to the Dairy Standards Act seems to be due to the clause by which it is provided that all who must be pasteurized before it is returned to the farm. Considerable importance has been attached to this clause in all places where the Act has been adversely criticized. The cost of installing the necessary apparatus for pasteurizing the milk, and the inconvenience attached to the process, has been emphasized, and these have been taken as additional reasons why the Act should not be enforced.

While there is a danger of greatly overestimating both the cost and inconvenience of pasteurizing why, it might not be wise to enforce this regulation until the principal object of the Act, namely, the payment for milk on a quality basis at cheese factories, has been attained. There is really no close connection between these two divisions of the Act, and pasteurization could well receive separate treatment. Apparently, therefore, it would be well to have the Act remodelled to the extent of allowing for the postponement of the introduction of pasteurization until a later date. Such action would overcome much of the objection that is being raised in some quarters to the dairy legislation.

Liquidating Indebtedness

NO institution in Canada has such facilities for arriving at a true estimate of the financial condition of the farmers of the country as a chartered bank, with its extensive system of country branches. A live manager of a local branch—and most of them are live business men—has unexcelled opportunities for securing information on the conditions of agriculture in the locality which his branch serves. His office is a business confessional in which the innermost details of their financial affairs are freely revealed by the bank's customers, and his books show the standing and indicate the progress or lack of progress of large numbers of farmers in the district. With scores of such branches in all parts of the country, a bank has a service at command that is unequalled for arriving at a just estimate of the financial condition of the agricultural industry.

In view of this, it is reassuring to read in the report for the year ending Nov. 30th, 1916, of the Union Bank of Canada, which has over 300 branches throughout the Dominion, that the agricultural conditions throughout the country are far more satisfactory than could have been foreseen. It is shown that the large crop of 1915 and the high prevailing prices of 1916 have enabled the farmer, particularly of the West, to liquidate an enormous amount of the indebtedness which they had assumed during the years of speculative buoyancy. This is particularly reassuring, as it indicates a reduction in the amount of indebtedness that will be carried over into the period of lower prices which it is freely predicted lie ahead of those who are engaged in the production of cereal crops exclusively. It is also pleasing to note that the local managers of the bank are using their influence to encourage live stock raising as a means of minimizing the risk which a farmer incurs by depending on one crop only.

In Union There is Strength

Tyrating Farmers Like Indians

SECRETARY J. J. MORRISON, in his addresses at meetings of farmers' clubs this winter, has sometimes used an illustration which has been greatly appreciated by his audiences. It is generally recognized that one reason why farming is not as profitable as it should be is because farmers have not organized to protect their interests as have the people engaged in other industries. Instead of working together, they all too frequently work against each other.

To illustrate the foolishness of this attitude, and the way it is likely to end, Secretary Morrison has been pointing out that when the first explorers landed on the continent they found the Indian tribes in complete possession. In time to protect their own interests, they succeeded in getting the different tribes warring against one another. The result was that the Indians finally helped to exterminate their race, thus leaving the white men in possession of their land.

By means of this illustration, Mr. Morrison points out that the business interests succeed in dividing farmers up as Grits and Tories, and while they are arguing over the tariff, etc., the business interests get tariff and other legislation passed in their own interests and thus are enabled to take wealth away from the farmers and to build up their industries at the expense of agriculture.

U.F.O. Convention, Feb. 28 to March 2

The Third Annual Convention of the United Farmers of Ontario will be held in Toronto, February the 28th to March 2nd, inclusive. This Convention promises to be one of great interest to the farmers of Ontario. Leading men of the western organizations are to be present, when topics of vital interest to Ontario farmers will be discussed. Programme, when ready, can be had on application from the Secretary, J. J. Morrison, 110 Church Street, Toronto.

Farmers Urge Census of Wealth

At the convention held recently in Brandon, the organized farmers of Manitoba, to the number of over 1,000, unanimously passed the following resolution by a standing vote:

"Whereas the British Empire and Allies are engaged in a life and death struggle, in which we believe the interests of civilization are at stake, and

"Whereas the Canadian Government, in order that Canada might render more effective service in the prosecution of the war has undertaken to make a census of the man-power of the Dominion, with the express view of organizing it to the highest efficiency;

"Therefore, be it resolved, that this convention endorse the action of the Government in this respect, but while endorsing it, desires to urge in the strongest possible terms our abhorrence of private profiteering on the part of those engaged in the manufacture or furnishing of war supplies of any kind, and also urge that a census of the wealth of Canada should immediately be taken with a view of imposing upon it to the full share of the burden it should bear in this time of national sacrifice, and, further, that these resources can only be organized to the full efficiency by a national government in which the interests of political parties shall be made entirely subservient to the interests of the state."

Club Notes

Our United Farmers' Club meeting was held on Jan. 4th, when Mr. J. J. Morrison, of Toronto, gave a splendid address. There was a very good turnout, showing the great enthusiasm that exists in the Society here. Mr. Morrison dwelt at length upon the great necessity of organization, and strongly urged farmers to stick together, and by buying cooperatively, to keep down the high cost of living as much as possible. In travelling all over Ontario he had never witnessed such a short crop as in 1916. The central Cooperative Company at Toronto had been badly handicapped by the war, through the great difficulty encountered getting goods over the Atlantic and by the congestion on the railways. High taxation is sure to be imposed upon the nation after the war. A number of new members joined the Club, which, although not recently organized, is growing rapidly.—J. Stringer, Terrz Cotta, Ont.

Victoria County: The Dunsford branch of the U.F.O. held a special meeting on Wednesday, Jan. 2nd, at which President R. H. Halbert was present and gave an address. Nine new members were added to the club, and the club also subscribed for a share of stock in the central company.

Algoma District: The Goulais Bay Farmers' Club is going ahead by leaps and bounds. Mr. Charles Sime is the president and Mr. Frank McCannan the secretary. Both are very energetic men. The membership has reached almost 30, and more are expected to join. Some profitable business has been done.—W. H. Evoy, Bar River.

Coming Events

SOCIAL Service Congress, Toronto, Jan. 31-Feb. 2.

Canadian Jersey Cattle Club, Annual Meeting, Toronto, Feb. 6.

Annual Convention, Association of Fairs and Exhibitions, Canadian Foresters' Hall, Toronto, Feb. 6-7.

Annual Meeting, Ontario Vegetable Growers' Association, Parliament Bldgs., Toronto, Feb. 8.

Annual Meeting of Holstein-Friesian Association, Canadian Foresters' Hall, 22 College Street, Toronto, 9 a.m., Feb. 8.

Ontario Plowmen's Association, Annual Meeting, Canadian Foresters' Hall, Toronto, Feb. 8.

Annual Meeting, Canadian Yorkshire Breeders' Association, Montreal, Feb. 14.

Ontario Corn Show, Kingsville, Feb. 13-14.

"Now," said the farmer to the new hand from the city, "I want you to clean up the pigsty, the stable, the henhouse, and all the other houses of the stock."

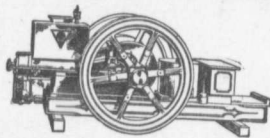
For two days the new hand worked vigorously; then he appeared before his employer with both eyes nearly closed, his mouth swollen, and red lumps over face, neck and hands. "Gimme my money," he demanded; "I'm goin' to quit."

"What's the matter?" asked the farmer. "I don't know what's the matter," returned the victim, "but it happened when I started to clean the beehive."—"American Boy."

Author—Where are the cuffs I took off this morning?

The Author's Wife—I sent them to the laundry.

Author—Heavens, I had the plot of a great novel written on them.



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WITH this simple, strongly built engine you can saw wood, run a pump, cream separator, churn, washing machine, feed cutter or feed grinder, and save time and labor around your farm.

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An ALPHA is a saving investment any way you look at it. It will save the money you now must pay out to get done work that requires you to hire some one with an engine, and it will do quickly work you are now doing by hand and give you more time to attend to other work. The sooner you get an ALPHA, the sooner it will pay for itself.

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See our display of wagons, buggies and farm implements at our convention, Feb. 28 to March 2.

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When You Write---Mention Farm and Dairy



HE only is a well-made man who has a good determination.
—Emerson.

Winning the Wilderness

(Continued from last week.)

CHAPTER V.—(Continued.)

ONE had only to listen to Dr. Carey's voice to understand why Darley Changers should accuse him of laying a charm on the whole settlement.

Virginia recovered herself quickly, saying with a wan smile:

"You came just in time, Doctor. I am lost and need help. I was going to you, anyhow."

Each one's face was so muffled against the wind that the eyes and lips and a bit of the cheeks alone were visible.

"Not a bad-looking woman for all the Kansas tan," the doctor thought. "She has a voice like a true Virginian and fine eyes and teeth. But any woman who bundles up for a horseback ride across the plains on a day like this isn't out for a beauty show contest. I've seen eyes like that before, though, and as to her voice—"

"I am Mrs. Asher Aydelot from the Grass River Valley," Virginia went on. "There are only three settlers out there now, Mr. Shirley and my husband and myself. Mr. Shirley is very sick with pneumonia, and Mr. Aydelot could not leave him, so I started to Carey's Crossing to see if you could come to him. I missed the trail somewhere. I was trying to help, but I failed, you see."

"The doctor was looking at her with a puzzled expression which she thought was born of his sympathy. To the mention of her failing he responded quickly:

"No, Mrs. Aydelot, you succeeded. I had started to Shirley's myself on personal business, and I was letting some whim turn me aside. If you had kept the trail he should have missed each other, for I was on my way to Big Wolf Creek, a good distance away, and your leaving the trail and wandering down here was providential for Shirley. Shall I show you on to the Crossing?"

"Oh, no, Doctor, if you will only come back with me, I don't want to go on," Virginia insisted.

"You are a regular westerner, Mrs. Aydelot," Carey declared. "But you haven't been out here long. I heard of your passing through our town late last summer. I was up on Big Wolf then and failed to see you. I know something of your husband, but I have never met him."

He helped her to mount her horse and together they sought the trail and followed it westward in the face of the wind.

Near midnight down in Jim Shirley's cabin Asher Aydelot turned from a lull in the sick man's ravings to see Dr. Horace Carey entering the door with a pair of saddle bags in his hand.

"Hello, sir! Aydelot? I'm Carey, the doctor."

Then, as his quick eye took in the haggard face of the man before him,

he said cheerily:

"Everything fit as a fiddle up your way. I left your cabin snug and warm as a prairie dog's hole, and your wife is sound asleep by this time, with a big dog on guard. Yes, I understand," he added, as Asher silently gripped his hand. "You've died a thousand deaths to-day. Forget it, and give me a hand here. My own are too stiff, and I must get these wet boots off. I ain't got at my work dry shod."

He had pulled a pair of heavy shoes from the saddle bags, and was removing his outer coat and sundry scarfs, warming his hands between while and seemingly unconscious of the sick man's presence.

"You are wet to the knees. You dared the short trail and the strange folds of rivers on a night so dark as this," Asher declared as he helped Carey to put off his wrappings.

"It's a doctor's business to forget

himself when he sees a distress signal." Then Carey added quietly: "Tell me about Shirley. What have you been doing for him?"

He was beside Jim's bunk now and his presence seemed to fill the whole cabin with its subtle strength. "You know your business, doctor; I'm a farmer," Asher said, as he watched this frontier physician moving deftly about his work.

"Well, if you mean to farm so far from pill bags you have done well to follow my trade a little, as you seem to have done with Shirley," Carey asserted, as he noted the evidences of careful nursing.

"Oh, Virginia—Mrs. Aydelot—helped me," Asher assured him. "She's a nurse by instinct."

"What did you call your wife?" the doctor inquired.

"Virginia—from her own state. Pretty sick man here," Asher said this as Dr. Carey suddenly bent over Shirley with storm eyes and tightening lips. But the eyes grew tender when Jim looked up into his face.

"You're all right, Shirley. You must go to sleep now."

And Shirley, who in his delirium had fought his neighbor all day, became as obedient as a child, as a very sick child, that night under Horace Carey's hand.

The next morning Virginia Aydelot was not able to rise from her bed, and for many days she could do nothing more than to sit in the rocking chair by the windows and absorb sunshine.

On the fourth day after Carey had reached Shirley's Asher went down the river in the early afternoon to find how Jim's case was progressing, leaving his wife comfortably tucked up in the rocking chair by the west window. The snow was gone and the early December day was as crisp and beautiful as an Indian summer day in a colder climate. Virginia sat watching the shadows of the clouds flow

along the ground and the prairie hues changing with the angle of the afternoon sunlight. Suddenly a sound of ponies' feet outside was followed by a loud rap on the door.

"Come in!" Virginia called. "Lie down, Pilot!"

Pilot did not obey, but sat up alert before his mistress as Darley Changers' bulk filled the doorway.

"Excuse me, Madam," the real estate dealer said in a careless tone. "Me and my friend, Mr. Smith out there, are looking up a claim for a friend of ours somewhere out in the Grass River settlement. Can you tell me who owns the last claim taken up down the river, and how far it was from here?"

"Mr. Shirley's claim is a few miles down the river, if you go by the short trail and ford at the bends, but much longer if you go around by the long trail," Virginia explained.

"Is it occupied?" Changers put the question in a careless tone.

Pilot's bristles, that had fallen at the sound of Virginia's voice, rose again with the query. It is well to be wary of one whom a dog distrusts. But the woman's instinct in Virginia responded little to the dog's uneasiness, and she replied courteously: "Yes, Mr. Shirley is there, very sick."

"Um, who have I the honor of addressing now?" Changers asked awkwardly, as if to change the subject.

"Mrs. Asher Aydelot." "Well, now, I've heard of Aydelot. Where is your man to-day? I'd like to meet him, Mrs. A."

It was the man's way of being friendly, but even a duller-fibred man than Changers would have understood Mrs. Aydelot's tone as she said:

"You will find him at Shirley's, or on the way. Only the long trail winds around some bluffs, and you might pass each other without knowing it."

"How many men in this settlement now?" Changers asked.

"Only two," Virginia replied, patting Pilot's head involuntarily.

"Only two? That's sixteen months' ever make it go here," Darley Changers declared. "Excuse me for saying it, Mrs. Aydelot, but I've been pretty much over Kansas, and this is the poorest show for settlement the Lord ever left out of doors. I've always heard this valley was full of claims you simply couldn't give away, but my friend, who has no end of money and influence for developin' the country, wanted me to look over the ground along the Grass River. It's dead desolation, that's all; no show on earth in fifty years out here, and in fifty years we won't none of us care for more'n a six feet of croppin' grass. I'm sorry for you, Madam. You must be awfully lonely here, but you'll be gettin' away soon, I hope. I must be off. Thank you, Madam, for the information. Good day," and he left the cabin abruptly.

The sunshine grew pallid and the prairies lay dull and endless. The loneliness of solitude hung with a god-heaviness and hopelessness at the lowest ebb: for Virginia Aydelot, trying bravely to deny his charge against the future of the land she had struggled so to dream into fruitfulness, she was only a woman, strong to love and brave to endure, but neither by nature nor heritage shrewd to read the tricks of selfish trade. And she believed that while Asher and Jim Shirley were hopeful dreamers like herself, here was an ill-mannered but unprejudiced man who saw the situation as they could not see it.

"That woman and her fool dog were half afraid of me at first. They don't know that women aren't in my line. I'd never harm a one of 'em." "They're in my line always. Was

(Continued on page 19.)



They sought the trail and followed it westward in the face of the wind.

The Upward Look

Self-Control

"THE Kingdom of God is within you."—Luke xvii, 21.

Last week had the great privilege of hearing an address by that heroic missionary, Mrs. Goforth, who, with her husband, has devoted more than a quarter of a century to missionary work in China.

One incident she told made such a deep impression upon me that I am going to pass it on. For many years, in their early work, the Chinese looked upon them with suspicion and hatred, but now all is changed and they are welcomed everywhere. Indeed, so pressing is this work, that they can not possibly respond to all the calls for help and teaching. At one time Mrs. Goforth prayed for the very help, though she did not see where one could possibly be found. There was one poor woman who had always been considered hopeless, with such a violent, uncontrolled temper, that she was looked upon with great terror by all.

This woman became the answer to her prayers. She so responded to the call of the Holy Spirit that in a short while she was a wonderful help as a Bible woman. Sometimes when Mrs. Goforth would feel she was not holding the interest of a crowd that had gathered, she would ask this woman to take her place. She never failed, so forcefully and appealingly could she preach her Saviour. She wore herself out in His service.

Before the home call came for her Mrs. Goforth asked her how she had received power to control her temper, of which she had never seen a trace since she had given herself to her Master.

Her answer was simply, "Why, Mrs. Goforth, if the Holy Spirit has complete possession of your heart, there cannot possibly be any room for a bad temper."

As I looked over that great audience and saw the effect of that story, I thought how little that woman, in that far-away land, could ever have imagined that her example would ever make such an impression and prove a source of help to so many of her sisters across the world.

The reason more so do you not gain complete victory over our besetting sins is because we think that we must overcome them ourselves instead of yielding these very sins to Christ and yielding them in faith to give us the victory over them, reminding Him of His promise that "sin shall not have dominion over you; for ye are not under the law, but under grace" (Romans 6: 14). Mr. Trumbull, of the Sunday School Times, relates this experience of another missionary, located in India. She was a high-spirited, high-tempered young woman, who had never realized that Christ was able and longing to give her the victory if she would but give Him the opportunity to do so. An older missionary led her to see the truth, with the result that God enabled her to claim Christ in His fulness as her victory.

Speaking about her experience, as told by herself, Mr. Trumbull said: "A few months later my friend (the older missionary) received a letter from her in which she said that she must now tell him about the wonderful things that were going on in her life. "I wanted to write you at first," she said, "but I scarcely dared to, for I was afraid it would not last. But it has lasted, and oh, it is so wonderful! Why," she went on, "just as an illustration of what I mean, do you know that not only for three months have I not once slammed the door in the face of one of these stupid Indian ser-

vants that used to get on my nerves so, but I haven't even wanted to once in the three months."

And that was a miracle. Not keeping from slamming the door—that is no miracle. Any ordinary, unswayed person who is half-way decent, can keep from slamming the door, by putting his hands behind his back, and deliberately not doing what he feels like doing. No, there is no miracle in that. But to get for three months once feeling within yourself that angry surge of irritation, of temper, that makes you want to show your feelings in some outward, uncontrolled way; does not your heart tell you that that indeed would be a miracle in your own life?

But that is Christ's offer to us now and here—freedom immediately and completely from all the power of known sin. That is what Paul meant as he came forward out of the seventh chapter of Romans into the eighth; when he said in the second verse of the eighth, "The law of the Spirit of life in Christ Jesus makes me free from the law of sin and death." Are you rejoicing in Christ as your victory in this miraculous way?

What are the conditions of this Victorious Life? Only two, and they are very simple. Surrender and faith. "Let go, and let God."—I. H. N.

Precautions Against Contagious Diseases

C. S. Putnam, F.I.D., N.D.A.C.

MEASLES and scarlet fever are very largely diseases of childhood. It becomes the duty of the parents to see that these directions for preserving and building up the resistance of their children are enforced. A normal, healthy child rarely "catches" disease.

Should a child or older person become ill with either measles or scarlet fever, he should be completely isolated from all others save the nurse or attendant. The parents of a sick child should, as an act of neighborly kindness, keep the child away from healthy children. The infection from both of these diseases lies largely in the discharge from the throat and nose or scales off, and is carried in many ways to others. In scarlet fever, the discharge from the throat and nose are also highly contagious. A few ways of preventing this spreading of the germs of these diseases may be mentioned.

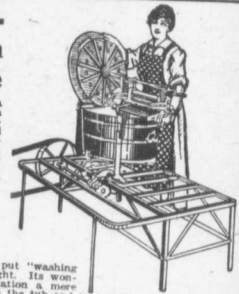
The sick child should be isolated in an upper room, removed from the other occupants of the house. Only one attendant and the physician should be allowed to enter that room. A sheet molasses with a 1 to 2,000 solution of bichloride of mercury (corrosive sublimate) should be hung over the doorway. The room should be free from all unnecessary articles. All clothing and bed clothing should be disinfected before leaving the room. Food remaining from a meal should be covered with disinfectant and burned. Linens of all kinds should be boiled in the room before being removed. A simple expedient for the prevention of the spread of these diseases is the anointing of the entire skin surface of the patient with cocoa butter and wiping the surface with a soft cloth, and then literally "burn" the room.

After the recovery of the patient, the room should be fumigated with formalin gas and thoroughly cleaned, and each and every article in it disinfected. Absolute disinfection and cleanliness are the key words to the prevention of the spread of these diseases.

To train up a child in the way he should go, you must know the way well yourself.

It's just fun--- washing with this machine

IF it's good business to use a mangle or wringer for running a pumping outfit or for operating a wood saw—then it's good business to make that same outfit run a Washing Machine. Your wife doesn't like unclean. She will welcome the arrival of a



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This is the machine that has put "washing by power" in an entirely new light. Its wonderful simplicity makes its operation a mere question of putting the clothes in the tub and taking them out again. We would like to tell you the complete story of this splendid machine. Will you not write for the booklet describing it?

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COOK'S CORNER

Conducted by L. G. Crummy.

Eggless Recipes

AT this time of year eggs are becoming very scarce, with the result that there is an increase in price; so during this season we are glad to resort to the recipes which do not call for eggs. Below are a few eggless recipes.

Sponge Cake.

One cup rich sweet cream; one large cup maple syrup; salt; one-half teaspoonful vanilla extract; one teaspoon soda; two teaspoons cream of tartar; flour to thicken. (Try this cake and you will be surprised how good it is, but it should be eaten fresh.)

Layer Cake.

One cup sugar; two tablespoons butter; one cup milk; one teaspoonful lemon juice; three cups flour; three teaspoonfuls baking powder. Cream, flour and sugar, add milk, stir in butter and baking powder, sifted together thoroughly. Then add lemon. Bake in two layers in buttered pans.

Doughnuts.

Six cups flour; two cups sugar; one cup cream; one cup milk; two teaspoons cream of tartar; one teaspoon soda; one teaspoon salt.

Cookies.

One cup sugar; one-half cup butter; one cup water; one teaspoon soda; two teaspoons cream of tartar. Flavor with nutmeg. Add flour to stiffen.

Corn Meal Cake.

One and one-half cups buttermilk; one cup sour cream; one cup sugar; three cups corn meal; three-quarters cup flour; pinch of salt and one teaspoon soda.

Corn Meal Pancakes.

One cup corn meal; three-quarters cup flour; one-half teaspoon salt; one heaping teaspoonful soda; two teaspoonfuls cream of tartar; cream (sweet) to mix thin.

Cottage Pudding.

One cup sugar; three tablespoons melted butter; one cup milk; two cups heaping of flour; one teaspoon soda; two teaspoons cream of tartar. Bake in pudding dish.

Oatmeal Wafers.

One cup sugar; one cup butter; one-half cup sour milk; one-quarter teaspoon nutmeg and cinnamon; one-third cup walnuts chopped fine; one teaspoon soda; four cups oatmeal; two cups flour. Roll thin, cut in squares and bake in a quick oven.

Selecting Kitchen Utensils Judiciously

ONE of the most disconcerting things in the kitchen routine is the lack of suitable utensils with which to do our cooking. Many steps, time and labor can be saved by having utensils suitable to our work right at our finger tips when needed. There is another side of the question, however, which should be considered. We should guard against cluttering up our pantry and kitchen shelves with articles that we really do not need. Sometimes when we go to town we see a number of articles displayed, possibly at "bargain" prices. While we really do not need them, because they are cheap and may come in useful some day, we purchase several of them.

"There's no sense littering a kitchen with a lot of things you seldom use," writes Anna B. Scott in the Philadelphia North American. This writer goes on to say that the main trouble is due to the fact that a woman buys a big stock of these utensils which wear out rapidly, and before long her cupboards are overflowing with pots

and pans which are not fit for use. The cost of an adequate kitchen equipment in utensils can be anywhere from \$15 to \$25, according to the quality. Miss Smith has drawn up a list of utensils which includes all the average kitchen requires. Here is the list:

- A tea kettle.
- One double boiler.
- One six-quart boiler with lid.
- One quart saucepan.
- One pint saucepan.
- One roast pan.
- One Turk's head (tube pan, as some call it).
- Agate soup plate.
- Agate platter for beating egg whites.
- Skimmer.
- Wire pots; masher.
- Cutting board.
- Rolling pin.
- Wooden spoon.
- Wooden bowl.
- Earthen bowl.
- Wire strainer and sifter.
- Fruit press.
- Salt, pepper and flour shakers.
- Two measuring cups.
- Bake sheet.
- Two cookie cutters.
- Four-sided grater.
- Funnel.
- Egg beater.
- Good can opener.
- Cork screw.
- Food chopper.
- Dutch oven.
- Omelet pan.
- Casserole.
- Two deep earthenware dishes.
- Six earthen custard cups.
- Eight earthen dishes for baking.
- Four jelly cake pans.
- Two pie tins.
- Two teaspoons.
- Two tablespoons.
- Two paring knives.
- One cooking fork.
- One spatula.
- Lemon squeezer.
- Twelve glass jars.
- Six jelly glasses, to be used to put things away in.
- One cake turner.
- One griddle.
- There is no frying pan in the list. In its place a "Dutch oven" is used, which is a shallow iron pot, useful for either frying, smothering or deep fat cooking. In the list also are six quart and six pint jars, in which spices and so forth are put away. They are easily kept clean, and one can tell at a glance what each one contains. Flour, sugar, coffee and tea could be kept in cans suitable for the purpose.

Love, Cherish and Obey

James Stringer, Halton Co., Ont.

THE subject of how much money a man should have before he asks a girl to marry him has already been discussed pretty thoroughly, and as I have read the letters which have appeared, it seems to me the ground has been pretty well covered. I would like, however, to give my views on the question, which I consider a broad one, and one on which many views may be taken. I notice "Cousin Amy," of Brant county, gives a personal experience, and for that reason I think her letter was about the best. Being a bachelor, I have not had the experience, but will try and relate what I have seen of the experiences of others who have gone through the mill of matrimony.

In my candid opinion, there should be no limit to the amount of money a man should have before introducing the fatal question. I think the more he has the better—although it would perhaps be better if both parties had some experience in earning their own money, so that they would know its value. From what I have seen of people who have married solely for money, their homes have not been as happy as if they had had more true love and less of the filthy lucre. I

have seen more happiness in the homes of people who have only their daily earnings than where they are quarreling over their money.

I do believe the marriage vows should be fulfilled, to love, cherish, and obey. The first duty is love, for where there is no love there cannot be real happiness. I also agree that one should have a comfortable home, and perhaps a thousand dollars or more, to start with, as even this would not go very far in these times when living is so high.

Some men, after marriage, make their wives their slaves. This should not be, for woman is man's superior and she should have the first place in the home. Take a woman away from the home and what a dilapidated-looking place it becomes. Both parties should work together in all things and strive for the one goal—to make ends meet and live happily.

Harmonize Furniture With Woodwork

HAVE you ever noticed that your furniture does not harmonize with your woodwork? In the usual house the fact is quite noticeable. The common are mahogany or walnut is frequently seen. The only way to harmonize yellow pine with the dark brown mission furniture is to stain it about the same color. Green stained woodwork with brown furniture is not good.

In bedrooms the pine can be enamelled cream and this makes a fine setting for mahogany, walnut or the cream or white is used throughout. It is a great mistake to put mahogany or old fashioned furniture against anything but white woodwork. Mahogany looks very badly if used with oak or yellow pine woodwork.

And again dark mission furniture does not correspond to mahogany woodwork, but is best with a brown. Too many of our houses are finished in the natural color pine, and no furniture in the world will look well with it. If we are building we can stain it, but if not, it sometimes must be endured. The only way to change it is to paint it or scrape the varnish off and refinish it.

Keeping Cider Sweet

CIDER may be kept sweet indefinitely by observing the following directions:

After being pressed from the apples, the juice is allowed to stand over night to settle, the clear liquid being poured off very carefully the next morning to avoid getting any of the settlings into the juice. This liquid is then heated to the boiling point, during which process the scum which comes to the surface is skimmed off at frequent intervals. At the boiling point it should be put in bottles or jugs and tightly corked or sealed with sealing wax. Cider will keep sweet for a long time when preserved in this manner.

A charming young woman walked into the stationer's shop in a village, and asked to see some typewriting paper. After making her selection, she hesitated for a moment.

"Do you make any reduction to clerks?" she inquired.

"Yes," replied the stationer promptly. "Are you a clergyman's wife?"

"No," she answered.

"A clergyman's daughter, probably," said the man, as he tied up the package.

"No," was the young woman's hesitating answer. "But"—and she leaned over the counter and spoke in a confidential whisper—"if nothing happens I shall be engaged to a theological student as soon as he comes home from college next term."

Winning the Wilderness

(Continued from page 16.)

she good looking? I never pass a pretty woman," Thomas Smith said smoothly.

"Don't be a danged fool, Smith. I might cut a man's throat to some extent, if it would help my business any, but I'd cut it more's some if he forgets his manners round a woman. We're a coarse, grasping lot out here fur as property goes, and we ain't got drawing-room manners, but it takes your smug little easterners to be the real dirty devils. Come on."

And Thomas Smith knew that the big, coarse-grained man was sincere. "Yonder's Aydelot now. What to see him?" Darley Chambers declared, sighting Asher down the short trail beyond the deep bend.

"I've no business with him, and he's the man I don't want to see," Thomas Smith said hastily. "I'll ride out of sight round this bend and wait for you. It's a good place when you don't want to be seen."

"Depends on how much of a plains-ighted boob of us half a mile back."

But Smith hurried away and was soon behind the low bluff at the deep bend before they saw him, and he saw them part company and only one come on to meet him.

"You're Aydelot from the claim up the river, I s'pose I'm just out of lookin' at the country. Not much to it but looks," Chambers declared as the two met at the deep bend.

"Yes, sir; my name is 'Aydelot,'

Asher replied, deciding at once that this stranger was not to be accepted on sight, a judgment based not on a woman's instinct but on a man's experience.

"Any of these claims ever been entered?" Chambers asked.

"Yes, sir; most of them," Asher responded.

"I see. Couldn't make it out here. I s'pose you'll get out next. Hard place to take root. Most too far away, and land's a little thin, I see." The real estate dealer remarked carelessly.

"You, it's pretty well out," Asher assented.

"The river ever get low here?" was the next query.

"Not often, in the winter," Asher replied.

(Continued on page 21.)

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Develop Musical Nature by Home Study
 One Way of Improving Our Spare Moments—Marion Dallas, York Co., Ont.

ALL through the country, in villages and towns, there are young girls and women improving their spare time by the study of music. Many of these have a teacher come once or perhaps twice a week to guide and inspire them in their work, but sometimes owing to bad weather, poor roads, or other reasons, weeks elapse between the visits of the teacher. To aid in such times as these, and to help and entuse the girls who are nobly struggling along without the counsel and advice of any teacher but purely for their love of music, this article is written.

The study of music should be undertaken with an intelligent comprehension of its beauty and wealth of melody. It should never be studied in the listless fashion adopted by so many young people. By that I mean the careless playing of airs with variations, the murdering of beautiful sonatas and the strumming of cake-walks and popular songs. The object of all study of music is to give pleasure not only to ourselves but to others.

It must be from the heart. Every player must study thoughtfully and with an earnestness which convinces the listener. Even the simplest tunes can be rendered to give pleasure, but only as the player throws her soul into her music will she influence her audience.

Harmony a Help.

To thoroughly enjoy the practice of music, I would recommend the student to master, first, Cumming's book on "Fundamentals," and then to turn to Stainer's "Harmony." A study of harmony, although it may seem uninteresting at first, gives an insight into music which can be derived in no other way. It is an easy study alone, but many of the teachers and professors in our colleges of music will, for a nominal fee, correct exercises (by mail) and give a great deal of help in that way.

Study Musical History.

The study of musical history gives a glimpse into the inner life of the great musicians, and enables one to interpret some of their thoughts and ideas. Following this, the history of music will teach the student to appreciate music as a great art, and especially in this needed in home study. It opens up a new world, and might inspire the young to make some musical history for Canada themselves, for we know our musical and national history is only in its infancy.

Whenever great artists come to your town or near you, go and hear them. Don't be discouraged if they play some of our modern music, as you are learning better than you do. Remember, although we can not all be artists, we can all do our best. Let the great player be an incentive to you to work harder and more faithfully.

Practice Not Long, But Well.

Set apart no more than five minutes practice every day, and allow nothing to interfere with your plan. Divide your practice hours. Practice technical exercises, but even in these watch the rhythm or accent. Make a study of time. Practice your pieces slowly. Slow practice is the foundation of all good piano or organ playing. Learn to practice not long, but thoroughly, and keep the mind and fingers under control.

Learn to memorize each piece thoroughly. When the first piece has been mastered, you will find the second much easier. It is really distressing to spend an evening in company with perhaps 20 young people, many of whom you know are paying out hard-earned money to colleges and teachers, when a request is made for some music, to hear one girl after another

refuse, saying, "Oh, I can't play without my music." After hard coaxing, some girl is prevailed upon to play "something," and it is usually—just a "something."

Overcome Nervousness.

Play every time you get an opportunity; play for father and mother—study some of father's old favorites and play them as carefully as if you had a large audience. Settle every chance to play before an audience. Much of our poor music is largely the result of nervousness and lack of memory training. The only cure for nervousness is constant appearances in public. An excellent way for a piano player to gain confidence is by duet playing and playing accompaniments. In this way you feel you are not alone, but unless you do your part well, the performance will be a failure.

Another thing in your practice to include is the study of simple hymns. The other night I heard of a meeting of 75 people. When the chairman asked for a volunteer pianist, no one responded. He repeated his request three times, and finally started the hymn. Of course the result was that the devotional part of the meeting was spoiled. In speaking of the circumstance to one lady who was present, she said: "Well, I never could do that. I have never learned to read music, and in many of our times we find a wealth of harmony. Surely it pays. The satisfaction of giving a little pleasure amply repays for the time spent."

Music As An Art.

Love your work and believe in yourself. What a satisfaction and pleasure can be derived from the piano-forte while you pursue your studies, melodies and harmony. The sense of growing power gives us keenest pleasure as we study the compositions of the masters. New beauties gradually reveal themselves, and light and happiness breaks over our lives. The mission of music is to lighten toil, comfort in sorrow, sweeten the lives of all mankind. Let your part of it cause sweet music to be felt in your own life, your home and your community, no matter how small, so that the lives of men and women may be strengthened, refined and lifted nearer to God.

"Let knowledge grow from more to more,

But more of reverence in us dwell,
 That mind and soul according well,
 May make one music as before."
 —Tennyson.

Boost

BOOST and the world boosts with you;
 Knock, and you're on the shelf;
 For the world gets sick of the one who kicks
 And wishes he'd kick himself.

Boost when the sun is shining,
 Boost when it starts to rain;
 If you happen to fall, don't lie there
 and howl,
 But get up and boost again.

Boost for the town's advancement,
 Boost for the things sublime;
 For the chap that's found on the top
 most round,
 Is the booster every time.

Boy: "I want another box of pills like I got for my mother yesterday."
 Druggist: "Did your mother say they were good?"
 Boy: "No, but they just fit my air-gun."



Why Not Make Mary Merry?

GLADDER her little heart. Educate those little hands and ears. Let the joy of expression brighten her girlhood days. Let the shaping influence of good music bring out more of that warmth of heart that is part of every little girl. Let it inspire her to noble things.

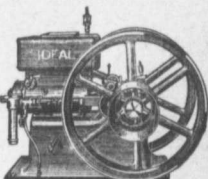
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Williams Piano
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When You Write—Mention Farm and Dairy

Winning the Wilderness
(Continued from Page 19.)

"Most too uncertain for water power, though, and the railroad ain't comin' this way at all. I must be gettin' on. One man's too few to be travellin' so far from civilization."
"Come up to the cabin for the night," Asher said, with a plainsman's courtesy.

"Thank you, no. Hope to see you again nearer to the Lord's ground; losin' game here, Goodby."
Asher did not look like a disappointed man when he reached the Sunflower Inn.

"Best new in the world," he declared when Virginia related what had happened in the cabin that afternoon. "A man who goes prospecting around the Kansas prairies doesn't discourage the poor class he plites; he tries to encourage the wretch to hold on to land he wouldn't have himself. Listen to me, Virgie. That man has his eye on Grass River right now. I know his breed."

Meanwhile the early dusk found Champers and Smith approaching Shirley's premises.
"I don't know about Aydelot," Champers declared as they lariatied their ponies before the corral. "He's one of the clear-eyed fellows who sees a good thing about as soon as you sight it yourself, and then he turns clam and leach and you won't move him nor get nothin' out of him, and that's all there is to it."

"Yes, I know that. I mean, you say he does?" Smith seemed too preoccupied to follow his own words, but Champers followed Smith shrewdly enough.

They made a hasty but careful examination of the premises, keeping wide of the cabin where the sick man lay.

"He's got three horses in there. He's well fixed," Champers declared, peering into the stable, where it was too dark to discover that the third horse was Dr. Carey's. "Let's hike off for some deserted shack for the night and get an early start for the Crossing in the morning. Easy trick, this, gettin' in and out of here unseen. And it's one of the best claims on Grass River."

"Couldn't we slip into the cabin?" Smith asked in a half whisper. "If he's too sick"—Something in the man's face made it look diabolical in the fading twilight, and he seemed about to start toward the house.

"Now, see here, Mr. Smith," Champers said with slow sternness. "What I say back there about women? Neither we ain't man-slayers out here, though your Police Gazette and your dime novels paint us that way. There's more murderers per capita in a single street in New York than in the whole state of Kansas, right now. If it's land and money, we're after it, tooth an' toenail, but forget the thing in your mind this minute or you an' me parts company right here, an' you can hoof it back to Carey's Crossing or Wilmington, Delaware."

Smith made no reply and they mounted their ponies and galloped away.

And all the while Dr. Horace Carey, inside the unlighted cabin, had watched their movements with grim curiosity, even to the hesitating, half-expressed intention of entering the dwelling.

"Champers would pull up another man's stakes and drive them into his own ground if he wanted them, but that Thomas Smith would drive them through the other fellow's body if the doctor's mental comment as he went outside and watched the course of the two men till the twilight gathered them in."

(Continued Next Week.)

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What groceries did Brown advertise?



JOHN BROWN is noted for being the liveliest merchant in town because of the novel way in which he advertises and creates interest in his well known grocery store. Recently Mr. Brown one that will give much amusement to customers. It is mostly very puzzle lover. Look at this picture of a man and his containing four hundred and sixteen staple lines of his stock. Then he had him draw a series of photographs and pictures to be used as the prizes. The Article caught the spirit of the idea, and at once drew attention. No one to represent customers. Then he drew picture No. 1 (It can't be right-Of). With the grocery list below to start you and the grocery list below by way of suggestion can you find what the other twelve represent?

SEE LIST OF GROCERIES BELOW 1917 Overland Touring Car

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A Host of other Grand Prizes to be Awarded

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THIS CONTEST IS ABSOLUTELY FREE OF EXPENSE

are you asked or expected to take the magazine and send you a single penny in order to compete and then need say a word as to all the other magnificent prizes.

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Follow These Simple Rules When Sending Your Entry



3rd Prize—Clare Bros. Famous High Oven Range, Value \$60.00
4th Prize—Genuine Singer Drop Head Sewing Machine
5th Prize—Famous "Hoosier" Beauty Kitchen Cabinet

1. Write your answers in pen and ink, using one side of the paper only. Put your name, address on the upper right hand corner. Anything other than name and address and your name on the reverse side on a separate sheet. Do not send false names or addresses.
2. Boys and Girls under 18 years of age are not allowed to compete. See our terms on the inside cover of EVERYWOMAN'S WORLD, not any of their relatives.
3. Contestants will be permitted to exhibit as many entries as they desire in the contest, but only one can be awarded a prize.
4. If a contest member of a family compete, only one name and address should be used.
5. Entries of three Toronto residents who have to abide by the decision of the Judge will be awarded prizes. The Judge will be awarded prizes to all contestants. The Judge will be awarded prizes to all contestants. The Judge will be awarded prizes to all contestants.
6. Each contest will be forwarded promptly, with the name of the contest member who will answer to reward you with such payment as we are able to give you in addition to any prize your answers may win in the contest.
7. A reader of EVERYWOMAN'S WORLD, in subscribing or adding an address to a list of subscribers, are there prizes. The Judge will have no knowledge of whether the entry is from a subscriber or not.

Dusting: 40 Acres A Day

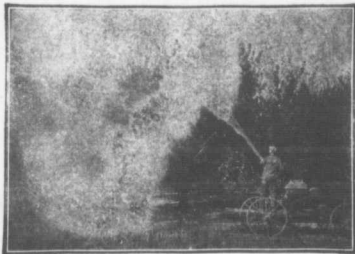
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This idea has always kept us investigating, experimenting. New methods are constantly being advanced. Some of them are good. When we know by experience that they are good we present them to our customers, and stake our reputation on the correctness of our conclusions.

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duced Lime Sulphur-Arsenate of Lead, and Soudis Sulphur to orchardists. Now we put our reputation, our confidence and our money back on the Dust Spraying Method as being the greatest boon to the Canadian fruit-grower.

The Niagara Dust Spray has proven itself under the most exacting tests even with the crudest kind of Dusting Machines.



"The Niagara Dusting Machine at Work."

"The Niagara Method of Dusting obtains as good, if not better, results than spraying, and the Dust can be applied so much faster (4 to 10 times) that frequent application can be made over large areas at critical times, assuring better protection."

Niagara Dust Sprays can be applied at any time of day and under conditions in which it would be impossible to use liquid sprays. The dusting machine (complete) weighs 400 lbs., whereas a liquid spray machine weighs nearly two tons. This allows the fruit-grower to spray in damp, muddy weather, when a liquid sprayer would sink to the hubs. Dust sticks to the fruit and foliage as long as liquid spray. There is no more wasted material than with liquid spray. During five years experimenting

Niagara Dust Sprays have proven that they control insects such as codling moth, and caterpillar, decidedly better than liquid sprays, also that the dusting method is fully equal or better than liquid for controlling such diseases as apple scab, sooty blotch, etc., and the cost is 25% lower.

You want to know all about Dusting and find out all that has been done by the big Commercial Orchardists and Experimental Stations.

Send to-day for free book on Dusting and Dusting Machines.

The Niagara Brand Spray Co., Limited

Burlington - Ontario

**MAKE YOUR BIKE
A MOTORCYCLE**
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side-cranked MOTORCYCLE. See
by attachment. No special tools or
"Wrench" needed. See **FREE BOOK**
sent free on request. See also
describing the SHAW Motor and
Bicycle. See also the new
and second-hand, too and up.
SHAW MANUFACTURING CO.
Dep't 123 GLEBEURIDGE BLVD., O.C.

SHIP YOUR BUTTER & EGGS

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mission merchants. We a-
pay net prices and remit
promptly.

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Established 1854. TORONTO, ONT.

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POLL EVIL**

Any person, however inexperienced,
can readily cure either disease with
**FLEMING'S
FISTULA AND POLL EVIL CURE**
—even bad old cases that skilled doctors
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and your cure is effected if it ever fails.
Cure most cases within thirty days, leaving
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subjects. Durable bound, indexed and illus-
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The Makers' Corner

Butter and Cheese Makers are in-
vited to send contributions to this
department to ask questions on
matters relating to cheese making,
and to suggest subjects for discus-
sion.

Rennet Substitutes Compared

DURING the past season the Dairy
Division, Ottawa, thoroughly
tested the various rennet sub-
stitutes that have been put on the
market. The practice followed was to
refuse to assist in any way the firms

These figures show the state of the
pepsin trade at the present time. Too
many kinds and too much difference in
strength would be my judgment. As
to the liquid coagulants, it will be
noted that there is very little differ-
ence in their strength and value as far
as their coagulating properties are
concerned.

Loss of Fat in Whey.

The loss of fat in the whey is an im-
portant point in manufacturing cheese
and we must admit that we found a
greater loss from the use of pepsin
than from rennet extract. Up to the
present this condition is not account-
ed for, as the pepsin coagulation is
apparently as perfect and the curd
shrinks as well during cooking.



Indisputable Evidence in Favor of the Dairy Standards Act.

Cheese Made From 100-lb. Lots of Milk of Varying Percentages of Fat.		
5.5% milk made 13% lbs. cheese valued at	37,564	\$2.65
5.5% milk made 12 lbs. cheese valued at	33,333	2.40
4.2% milk made 11% lbs. cheese valued at	73,242	2.13
4.0% milk made 10% lbs. cheese valued at	57,515	1.88
3.5% milk made 9% lbs. cheese valued at	47,996	1.78
3.4% milk made 8% lbs. cheese valued at	34,378	1.69
3.2% milk made 8 lbs. cheese valued at	36,666	1.78

that would not consent to have their
product put through an exhaustive
trial out at the Finch Dairy Station. The
Chief of the Division, Mr. Geo. H. Barr,
gave at the recent dairy con- as the R-P Extract and

The following figures show the re-
sults of the comparative tests made in
October and November. We could not get the work done
sooner, as the R-P Extract and

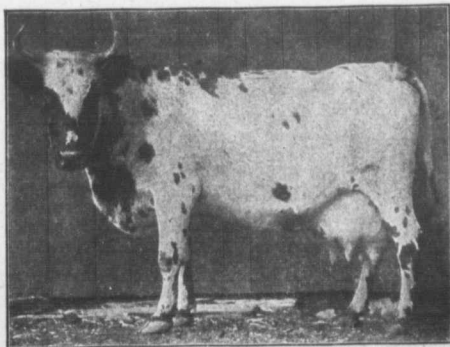
Cheese Made in October and November.

Coagulant and Manufacturer or Agent.	Lbs.	Value of a Milk. lb. or gal.
Soluble Wheyless Pepsin, Armour & Co., Chicago, Ill.	37,564	\$4.10
Renzyme, T. E. O'Reilly, Ltd., Toronto, Ont.	33,333	8.54
Granulated Pepsin, American Pepsin Co., Madison, Wis.	73,242	7.93
Scale Pepsin, Frederick Stearns & Co., Windsor, Ont.	57,515	6.22
Scale Pepsin, The Bennett & Messacar Co., Ltd., Millie Roches, Ont.	47,996	5.19
Granulated Pepsin, National Drug & Chemical Co., Mon- treal	31,497	3.41
Spongy Pepsin, Parke, Davis & Co., Walkerville, Ont.	25,142	2.73
Rennet Extract, Chr. Hansen's Laboratory Inc., Little Falls, N. Y.	36,666	3.97
R-P Extract, Chr. Hansen's Laboratory Inc., Little Falls, N. Y.	34,378	3.73
Curdalac, Parke, Davis & Co., Walkerville, Ont.	36,666	3.97

vention, the above table as the results
of the experiments with rennet sub-
stitutes at that station.

The value of a pound or a gallon of
different coagulants and the pounds
of milk one pound or one gallon will
coagulate fit for cutting in 27.5 min-
utes.

Coagulant.	No. Curds.	Average Loss.
Hansen's Extract	35	31.4%
Hansen's R-P	4	24.6%
Curdalac	5	31.8%



Gracie, 30347; An Ayrshire Matron of Great Scale and Capacity.

In December, 1916, she gave 1,850 lb. milk testing 4.2 per cent. fat. Owned by
R. T. Brownlee, Peach Blow Farm, Hemmingford, Que.

When You Write---Mention Farm and Dairy

More Light on Cream Grading

Initial Work in Cream Grading*

F. Hens, Chief Dairy Instructor.
 It was pretty generally supposed that the Ontario butter dealers could not make any distinction in the price of creamery butter in competition. However, there is reason to believe that the more progressive dealers realize the importance of a quality basis and that they are ready to cooperate to the fullest extent with the creamery men and producers in order to make workable a system of this kind.

Following out a suggestion which I made at the last convention, the Director of dairy instruction authorized me to proceed to work out preliminary details suitable, so far as possible, for the beginning of a grading plan. Early in April the director and myself met in Toronto with a committee of prominent butter dealers for the purpose of discussing the whole question and as a result certain grading standards were agreed upon and other arrangements made.

Experimental Grading.

The late Minister of Agriculture engaged Mr. Jno. H. Scott as producer of the first of July. Three points were especially in view: (1) Is it practical to examine, on arrival at the storage score this butter according to standards agreed upon and make a report regarding quality to the creameries interested? (2) Is it practical under Ontario conditions to introduce a plan of grading butter by sample? (3) Do the creamery men and dealers desire to have disputes on quality dealt with by the grader?

What is Proposed.

After four months' work in connection with the points mentioned above and after discussing the matter with the creamery men at the recent District meeting at Guelph, and with the owners of creameries and with the mental hopes to continue this work and offer to the creamery men for the coming season, who wish to cooperate with us a grading service, that is: (1) All the butter that can be reached in the warehouses will be scored and a confidential report sent to the shipper; (2) we will grade by sample and send to the salesman the score of the butter from any creamery desiring to take advantage of the grading service, conform to a few simple regulations, and (3) the grader will, when requested, referee disputes regarding quality between buyer and seller.

As yet this grading plan is only in the initial stage, but from the work so far done, it appears practical to gradually introduce in Ontario a system of commercial grading, which will have for its object, not only the ultimate improvement in quality, but in addition will insure so far as possible the creameries that turn out first grade butter, obtaining a premium for it.

There is no desire to create unsettling radical changes or advocate theoretical methods. The object of this work is to endeavor to eventually prove so far as possible by practical demonstration that a grading system is or is not workable in Ontario. If this method proves successful it is believed to be in the best interests and to the advantage of the producer, creamery proprietor, dealer and consumer.

The process may be slow, but I feel

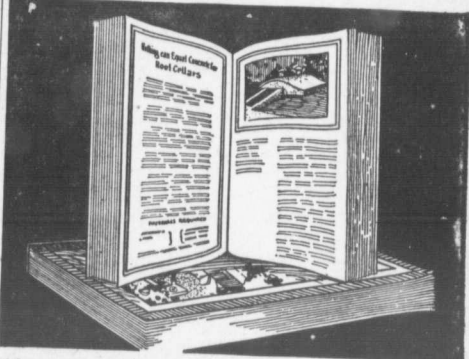
*From an address before the convention of the Dairymen's Association of Western Ontario, Woodstock, Jan. 11, 1917.

that it is better to work slowly but surely and to make the merit of this plan the means of its general adoption, rather than to rush into radical changes before public opinion is prepared to support the movement. We ask you to withhold criticism until the method has had a fair trial and then to accept or reject it on its merits. May we have the cooperation and support of those engaged in the creamery industry? We wish to point out that we can continue this work only as far as the money available and your support will allow.

Do It in a Business Way

EDITOR Farm and Dairy: I have been reading with interest the different opinions of the men interested in the manufacture of butter in Ontario, and note that almost all of them are strongly in favor of a grading basis for butter and cream, which we heartily concur in. When we look at the quality of butter that is made in Ontario and compare it with some other country's butter, we do not need to wonder why we do not have the preference in the Old Country markets, and we have got to accept this as a fact, that we will in the very near future have to depend solely on the English market for the disposal of our surplus butter. Up till the last year or so we have been able to consume all our production in our own country, or very nearly so, but when we look at our western provinces increasing their production each year by tens and hundreds, it behooves us to take thought for the future of the dairy industry in Ontario. In the western provinces they are so far ahead of us that we will have to go by instance take Alberta, the local government there have taken up the proposition of grading the butter, and almost all had three grades, but so great an improvement has been made in the quality of the butter, that they had to adopt another grade, which they call their special, and this is the highest using this system of grading, and there are some 57 creameries in that province that have made last season, about 79 per cent. graded special.

One of the main reasons that I see for adopting a system of grading is, that we might be in the proud position of ranking amongst the highest grades, and having our butter always labelled "waxed," and when we speak of adopting a system of grading for our fountain head for a start. This means that it would be necessary to grade all cream that comes into our factories, and incidentally I might say that this is the policy we adopted when we first started to make butter, and so far we have had no reason to regret it nor to change our policy and take change this policy under any conditions, unless for some improved method. Another reason for this is, that if you get a farmer who is careful of his cream, takes good care of his cows, and produces the best article that it is possible to produce, why should he only get the same price as another who is careless and indifferent about what he turns out? It is not justice; it puts a premium on careless work. Now as far as the factories are concerned, we note what Mr. Showers of Bridgen says in this connection, and must say that we agree with all he has said up to this point. We do not think that anyone should be afraid to go out and play the game fair, and give every man justice, and it cannot be done if we pay for all grades of cream at the same price. Furthermore, we are going through strenuous times now, and when all food products that can be produced are re-



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FOUNDATIONS	<input type="checkbox"/>

WRITE THE PUBLISHER CAN. CO. WITH "CONCRETE."

55 Head Auction Sale 55 Head

PURE BRED HOLSTEINS

Old Commercial Stables, Brantford

Wednesday, Jan. 31st, 1917

AT ONE O'CLOCK

The Brant District Holstein Breeders will hold their third annual consignment sale of 50 choice females and 5 bulls. The females are mostly fresh or springers and a number are R.O.M. or from R.O.M. and R.O.P. dams. Apply to secretary for catalogue.

ALMAS & MOORE
 Auctioneers.

J. W. RICHARDSON
 Sales Manager.

N. P. SAGER
 Secretary
 St. George, Ont.

27. Sm. 304; 276.7 lbs. milk, 5.66 lbs. fat, 11.84 lbs. butter. Andrew Dunn, Ingersoll.

1. Snowball Segal DeKol, 34161, 27. 3m. 2d.; 308.3 lbs. milk, 5.19 lbs. fat, 11.50 lbs. butter. Cyrus Travis, Stratfordville.
2. Countess Plus, 32345, 27. 3m. 2d.; 327.6 lbs. milk, 5.37 lbs. fat, 11.09 lbs. butter. S. Lemon, Lynden.

SPECIAL RECORDS MADE AT LEAST EIGHT MONTHS AFTER CALVING.

1. Pilsa Pontiac Arlis, 16792, 4y. 10m. 26d.; 231.0 lbs. milk, 11.43 lbs. fat, 14.17 lbs. butter. S. Lemon, Lynden.

Jr. Two-Year Class.

1. Calamity Snow Pontiac, 21695, 1y. 11m. 18d.; 233.9 lbs. milk, 9.75 lbs. fat, 12.19 lbs. butter. Walburn Rivera.

During the past two weeks of December

entitled those to enter in the Record of the mature class with a record of 26.29 were reported, but Riverdale four-year-olds Lyons is best junior with 24.58 lbs. in seven days and 43.63 lbs. in 14 days. In the senior three-year-old class Imperial 23021 leads with 22.41 lbs., while the highest junior is Dairy DeKol Mechtliche two-year-olds. A good class of senior Lyons Twice with 21.14 lbs. butter in seven days and 41.58 lbs. in 14 days, adding another good performer to the Echo family. By the way, an injustice was inadvertently done in Vol. 9, Year Book to the good heifer, May Echo Model, that should have been placed in the list of highest record junior through fifth in the seven-day division and fifth in the 30-day division, records being 25.45 lbs. butter and 64.11 lbs. milk in seven days and 127.50 lbs. butter and 263.9 lbs. milk in 30 days. Plus Pontiac in seven days leads the junior two-year-olds with 14.35 lbs. butter in seven days. In the eight months after calving division Plus Pontiac Arlis makes 14.37 lbs. in seven days at a senior four-year-old at most 19 months after freshening, giving her Canadian championship in her class. Calamity Snow Pontiac makes 12.19 lbs. over a year and 11 months.

W. A. CLEMONS, Secretary.
Semi-Official Records of Holstein-Friesian cows from Nov. 1 to Dec. 30, 1916.

Mature Class.

1. Niagara Maid, 2385, 7 yrs.; 20.816 lbs. milk, 765 lbs. fat, 843.75 lbs. butter. John C. Brown, Stamford.

2. Aargie Girl, 19165, 7 yrs.; 14,502 lbs. milk, 546 lbs. fat, 707.50 lbs. butter. C. P. B. Demonstration Farm, Stratthorn, Alta.

3. May Belle Mechtliche, 23585, 4 yrs.; 13,948 lbs. milk, 527 lbs. fat, 658.75 lbs. butter. Wm. Gracey, Bright.

4. Annie H. Paulsen, 12963, 4 yrs.; 11,563 lbs. milk, 483 lbs. fat, 537.50 lbs. fat, 472.75 lbs. butter. Dir. Exper. Farms, Ottawa.

5. Lady Jane of Burnbrae 2nd, 2917, 7 yrs.; 12,792 lbs. milk, 399 lbs. fat, 472.75 lbs. butter. Dir. Exper. Farms, Ottawa.

Four-Year Class.

1. Gammy's Knockkool May 2nd, 16825, 4 yrs.; 245 days; 12,153 lbs. milk, 468 lbs. fat, 656 lbs. butter. J. Stanley Watson, Fins Grove.

2. Rhoda DeKol Heels, 17440, 4 yrs.; 176 days; 13,361 lbs. milk, 493 lbs. fat, 528.75 lbs. butter. Dir. Exper. Farms, Lacombe, Alta.

Three-Year Class.

1. Veeman Beauty Queen, 24763, 3 yrs.; 181 days; 12,329 lbs. milk, 498 lbs. fat, 622.5 lbs. butter. Noah S. Bender, Tavistock.

2. Lady Petrie, 1719, 3 yrs.; 245 days; 16,216 lbs. milk, 459 lbs. fat, 572.50 lbs. butter. C. P. B. Demonstration Farm, Stratthorn.

3. Lenore Dell Burke Star, 13962, 3 yrs.; 220 days; 15,764 lbs. milk, 430 lbs. fat, 537.50 lbs. butter. Dir. Exper. Farms, Lacombe.

4. Inka Posch Honersfeld 2d, 23565, 2 yrs.; 21 days; 12,961 lbs. milk, 423 lbs. fat, 628.75 lbs. butter. Jacob Leuninger, Bright.

5. Dworth Dorinda Saracotte, 20273, 3 yrs.; 170 days; 12,008 lbs. milk, 411 lbs. fat, 513.75 lbs. butter. G. A. McCulloch, Neven.

6. Rosa Bonheur Pioneer, 24650, 3 yrs.; 411.25 lbs. milk, 355 lbs. fat, 451.25 lbs. butter. Dir. Exper. Farms, Ottawa.

Two-Year Class.

1. Morninada Beauty Bodo, 27559, 2 yrs.; 176 days; 16,031 lbs. milk, 500 lbs. fat, 737.50 lbs. butter. Wm. J. Atkins, Bellevue.

2. Flesse Hengervold 2nd, 23201, 2 yrs.; 243 days; 11,230 lbs. milk, 350 lbs. fat, 478.75 lbs. butter. Jacob Leuninger, Bright.

3. Pincosa Bessie Korndyke, 24661, 2 yrs.; 209 days; 14,117 lbs. milk, 345 lbs. fat, 481.25 lbs. butter. Walter Jickling, Lasterud.

4. Bebo Nina Waldorf, 25484, 2 yrs.; 245 days; 9,172 lbs. milk, 317 lbs. fat, 396.25 lbs. butter. S. C. Francis, Avonmore.

5. Winnie Boneraga DeKol, 24629, 2 yrs.; 200 days; 1,043 lbs. milk, 309 lbs. fat, 385.25 lbs. butter. A. F. McLean, Finch.

During the months of November and December 18 cows and heifers qualified in the Record of Performance in the

mature class Niagara Maid comes first with the excellent record of 20.816 lbs. milk and 947.5 lbs. butter. Aargie Girl is a creditable second with 14,502 lbs. milk and 707.50 lbs. butter. Gammy's milk with 14,159 lbs. milk and 546 lbs. butter. Among the three-year-olds are five with higher Veeman Beauty Queen with 22,329 lbs. milk and 622.50 lbs. butter. Lady Petrie has 16,216 lbs. milk and 572.50 lbs. butter. In the two-year-old class Morninada Beauty Bodo makes a splendid showing with 16,031 lbs. milk and 57.50 lbs. butter.

W. A. CLEMONS, Secretary.
SIRE'S AT THE EXPERIMENTAL FARMS

THERE has recently been purchased by the Experimental Farm System the bull "Inka Sylvia's" heifer's Pooch" for the Experimental Farm, Aargie, E.C. It is not necessary to tell of the value of "Inka Sylvia's" heifer's self a pure-bred bull with proven blood in all classes of both pure-bred and grade Holsteins, irrespective of their pure sire for this British Columbia herd, in which many splendid females. Mr. P. H. Moore, who has been the superintendent at this farm for four years, made an excellent selection of thirteen females from the herd of J. M. Stevens, Stevenson, B.C. The foundation females were all by the famous bull, one of the leading bulls of Canada, being 10 R.O.P. daughters, one R.O.P. son, and one Canadian champion. One R.O.M. P.O.R. daughter and one R.O.M. P.O.R. son. This bull is the grand sire of "Lady Sylvia's" heifer, the Canadian official champion cow or heifer for butter-fat and the Canadian champion three-year-old heifer. Undoubtedly this great bull is a splendid breeder, and herd of Mr. Stevens, as well as in many of the best Holstein herds along the Pacific Coast. For example, I believe 12 daughters of this bull are in the herd of another of my friends, Mr. J. M. Stevens, at the Experimental Farm, Aargie, there breeding on the blood of "Inka Sylvia's" bull, but the stage is now reached where we would seem advisable to use an out-cross. Considering the tremendous amount of milk and the fairly high fat record of milk and the heifer's Pooch's heifer, "Inka Sylvia's" heifer, he was considered to be the best animal available for this purpose. It remains to be seen whether this judgment is correct or not.

It is of interest to know that for the Holstein herd at the Experimental Farm, Lacombe, Alta. there was purchased "Inka Sylvia's" heifer, the Canadian official champion cow or heifer for butter-fat and the Canadian champion three-year-old heifer. Undoubtedly this great bull is a splendid breeder, and herd of Mr. Stevens, as well as in many of the best Holstein herds along the Pacific Coast. For example, I believe 12 daughters of this bull are in the herd of another of my friends, Mr. J. M. Stevens, at the Experimental Farm, Aargie, there breeding on the blood of "Inka Sylvia's" bull, but the stage is now reached where we would seem advisable to use an out-cross. Considering the tremendous amount of milk and the fairly high fat record of milk and the heifer's Pooch's heifer, "Inka Sylvia's" heifer, he was considered to be the best animal available for this purpose. It remains to be seen whether this judgment is correct or not.

Ayrshire News

AYRSHIRES SELL WELL IN SCOTLAND.

ONE of the most noted Ayrshire herds in Scotland is that of Mr. Thos. Barr, Hobland, Moncton, N.S. This herd is world famous, as many of the greatest Ayrshires of the United States, Japan and other countries have an annual sale of young bulls and cows. This was held on December 2nd last and 121, or eighteen, milk calves realized \$1,216, an average of \$225.

The highest price, \$1,500, was paid for "Hobland's Scotchman," the best Ayrshire out of "Hobland's Scotchman's" herd, in forty-eight weeks at a three-year-old sale. Apparently there was a great demand for "Hobland's Scotchman's" young stock. The dam of this youngster, "Hobland's Perfect Piece," was purchased for \$1,000. The next highest price was paid for "Hobland's Scotchman's" dam, "Hobland's Scotchman's," has a record of 1,446 gallons at 3.81 milk, testing 3.1 per cent. in forty-three weeks. One of her daughters was sold at an auction sale in the United States for \$2,000. The highest price ever paid for a Scotchman Ayrshire in Scotland, and late at sales of particularly good prices.—W. F. B.

AYRSHIRES IN THE TROPICS.

IN considering the breeding of live stock in the tropics there are two important items, consideration—adaptability and con-folowing the importation of such animals from the South Seas when these two qualifica-tions have been secured.

The mountainous character of the coun-

HORSE COLLAR PADS IMPROVED

PATENTED IN U.S. DEC. 11/1914
PATENTED IN CANADA
APRIL 6, 1915



TAPATCO PADS, long-time favorites, are now further improved by the new patented staple and felt reinforcing device, shown at right in a small cut of pad, and immediately above in almost working size.

This new attachment gives the hook a larger, firmer hold and prevents it coming off easily. This attachment is

Found Only on Pads Made By Us
Look for it when you buy pads. No other attachment will give you equal satisfaction and service.

Ask your dealer for the free Tapatco booklet showing Tapatco pads in various colors and containing many valuable horse remedies. If your dealer hasn't this book, request him to write us direct for it.

We also make a complete line of Riding Saddle Pads.
Sold by dealers everywhere.

The American Pad & Textile Co.
Main Office and Plant, Chatham, Ont., U. S. A.

Tested by Time, Panic and War

Mortgage Corporation Debentures do not fluctuate in value. Neither time, panic nor war affect them. Stocks drop. Some disappear altogether, but through all the excitement and strife of war, Standard Reliance Debentures have stood the test for security of principal and permanency of interest.

A \$100 Standard Reliance Mortgage Debenture is still worth a \$100 and Pays 5% interest in cash on the day it is due, at your local bank.

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Thousands of people have invested their savings in these debentures without the loss of one dollar invested.

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ELMCREST HOLSTEIN - FRIESIANS

Never before have the prospects for dairying been as bright as now. Here is a splendid opportunity to get in right-at the right time. Pretty well sold out of bulls from a 27-son 1-yr.-old-spread of year-old and two-year-old heifers from one record and one carded test champion—latter bred to King Tackle 1932-Diana Rosaline 9214—record at 1 yr., butter 20.78, milk 65.2. Sire's dam, Evergreen March 2388, record 7 days, 74 lbs. milk, 22.46 lbs. butter. One year, 23,107 lbs. milk, 1,130 lbs. butter. All cows and heifers due in February and March. Phone, write, or come.

W. H. CHERRY Hagersville, Ont., Haldimand Co. M.C.R. G.T.R.

LAKEVIEW HOLSTEINS

Are still in the lead. The latest Holstein year book shows that they held 4 Canadian Records for butter, and Lakeview bulls have won all honors possible at both Toronto and London Exhibitions, 1915 and 1916. Now we are offering several richly bred young fellows that are looking forward to the fall fair, and we have decided to give \$25.00 in gold to the man that buys the 1917 winner.

Don't miss this opportunity. Act quick, and plan to spend a day at Lakeview. Terms cash or time.

Major E. F. OSLER, Prepp. Bronte, Ont. T. A. DAWSON, Mgr.

HIGHLAND LAKE FARMS

Jointly with J. Alex. Wallace, of Simcoe, we have leased for the season the best young bull, **AVONDALE PONTAC REGIS** (son of **YONGE** and **YONGE**), 41 lbs. butter in seven days, 152 lbs. milk in one day, and other world's records for milk production. Two fine young bulls of serviceable age for sale. One yearling bull, **YONGE**, 24 lbs. milk in one day, and one great **KING REGIS**. The other from a son of the \$35,000 bull. Both grand individuals and from high R.O.M.s. Over seventy females to choose from. Send for pedigrees and prices.

R. W. E. BURNABY (Farm at Stop 55, Yonge St. Radial), Jefferson, Ont.

NOTICE

I have consigned to the Brant Holstein Breeders' sale to be held Jan. 21, 1917, in Brantford, the grand show bull **Snowflake Hengerveld**, No. 2554, born Nov. 31, 1912. Just old enough for service. Sire **Lakeview Dutchland Hengerveld 2nd**, Grand Champ. Can. Nat. Ex. and Western Fair, 1918. Dam, **Evangeline 2nd**, Snowflake, Grand Champ. **Joseph Dairy Test 112**, in 12 days, 2nd 1915. 2nd over all breeds, 2 months' R.M. at 7, 3, 21, at nearly 10 years, 21.25 butter in 7 days. This bull is good enough in breeding and as an individual to head any herd. Cows and buy him. Write for particulars.

W. G. BAILEY, Oak Park Stock Farm, R.R. No. 4, PARIS, Ont.

Two Young Bulls For Sale

Sired by Dutchland Colantha 8r. Mona who sired **Lakeview Dutchland Article**, the Canadian Champion senior 3 yr. old. Milk in 7 days, 567.7 lbs.; butter, 24.66. No. 1, 9 months' o'd. dam Rose of **Lakeview**, record at 2 years, milk, 433.7; butter, 10.75. Sire by the same dam as **Lakeview Rattler**, milk in 7 days, 734 lbs.; butter 27.44 lbs. No. 2, 14 months' old. His two nearest dams average 35.12 lbs. butter in 7 days. Will be sold very cheap to make room. For price write

R. W. KING Grand Valley, Ontario

HOLSTEINS

Could spare 10 cows or heifers bred to the Great Bull **KING REGIS PONTAC DUPLICATE**. Have one yearling bull, and calves from 10 months' R.M. **MYTLE**, C.P.R. Manchester, G.T.R. Port Perry, R. R. 4

AYRSHIRE BULLS

Two yearling bulls, sired by a brother to the champion R. O. P. Two year old heifer (record 14,121 lbs. milk and 150 lbs. fat), and dam a son of 2-yr. champion R. P. Cow, Primrose of Tanglewyld (record 16,130 lbs. milk and 626 lbs. of fat). These bulls are from dams whose milk average a high fat content.

We are also selling a choice bull and 2 heifers, with same top crosses, at 1/2 price. Also offering the bull in sale being from same family as the champion R. P. bull "Scottie," who was bred by us.

W. W. BALLANTYNE & SON, R.R. No. 3, Stratford, Ont.

PEACH BLOW AYRSHIRES

Young Stock for sale, always on hand (both sexes), from high-testing heavy producers. Cows, heifers and large test a special feature of my herd. Three fine young sires ready for service. Get particulars of these if you need a sire. R. T. BROWNLEE, Peach Blow Farm, HEMMINGFORD, Que.

WANUT COUNTRY AYRSHIRES

We have for sale a bull calf from **SCOTTISH NANCY** (record 6501.3 lbs., 269.16 lbs. at a two-year-old, testing 4.1 per cent.). She is a daughter of a Canadian champion sire **SCOTTIE** (20 qualified daughters). Also 1/2 heifer calves sired by **NEIDPATH AIRMAL**, whose dam was a full sister to **SCOTTIE**. They are a quality lot priced to sell. Write for extended pedigrees to

REG. J. A. SMITH, R.R. No. 1, HATCHLEY STATION, ONT.

RIVERSIDE AYRSHIRES

Calves male and female; bulls fit for service; by **Melthorington**, Imp. 2842. Females all sold from last Price Nibs 254 and good producers. One Standard Bred Station 16 months, with His Nibs 254, "5590".

Apply to Robert Sinton, Manager Riverside Farm, Monts Bello, Que.

Or to Hon. W. Owens, Westmount, Que.

dry and the decidedly humid atmosphere make a considerable difference from the climate to which the breeds of the United States are accustomed. It is for this reason that all imported cattle should have an especially adapted constitution and should have inherent qualities which would permit them to stand the quality of the condition of the tropics.

In the Republic of Colombia many importations have been made from time to time of Holsteins, Irishmen, Red Polled and various other breeds. These importations did not give satisfactory results because the breeds imported were not adapted to get their animals acclimated. On account of these many instances of failure they decided to try the Ayshire breed. It was recommended as having constitutional vigor and the quality of adapting itself to a tropical climate. So far success has been met with this breed of cattle, and other South American countries are now importing the breed. The native breeders are constantly improving the native cattle by crossing them with imported Ayshires, and the result has been a remarkable increase in milk production and improvement in conformation.

Ayshire breeders have always claimed that the Ayshire cow thrives and produces well under any conditions and especially under extreme conditions of either heat or cold. This has proved their contention—W. F. S.

DAIRY LIFE STOCK MEETINGS

THE 34th annual meeting of the Holstein Friesian Association of Canada will be held at the Canadian Farmers' Hall, 23 College Street (near corner of Yonge), Toronto, Ont., on Thursday, February 8th, 1917, at 3:30 a.m.

The ninth annual banquet of the Holstein Friesian Association of Canada will be held on Wednesday, February 7th, at 6:30 p.m., at the **Carls-Lite Hotel**, Toronto, Ont., Dr. Helen MacDermid, Mr. Peter McArthur, Professor E. S. Archibald, and G. H. H. MacDermid will deliver addresses. A good musical programme will be provided. Admission is invited as well as acceptance. Those who expect to attend will confer a favor by dropping a card to J. W. Riddell, 1700 Dundas, Caldwell, Ont., secretary of the banquet committee, so that he may have an idea of the number of persons. For tickets, \$1.00 per plate.

There will be a directors' meeting of the Canadian Jersey Club at the **Carls-Lite Hotel**, Toronto, on Feb. 6. The following day the 22nd annual meeting will be held. The club is not holding a banquet this year. It having been decided by the directors to limit this function on account of the war. The meeting will be held in the secretary will be the best ever presented before the club, large increases in registrations, transfers and revenue being recorded for the year.

Ayshire Breeders' Association. The 42nd annual meeting of the Ayshire Breeders' Association will be held at the **Hotel McAlpin**, New York, January 31, with about one hundred and twenty-five members and friends present.

President Roberts made valuable suggestions for an active campaign in the coming year. The report of the secretary shows an increase in the number of members over any year since the organization of the association, one hundred and ninety members having been added, coming from all parts of the United States and Canada, but particularly from the west and southwest, the result largely of the increased advertising done by the association during the past year. A review of Advanced Registry records shows a decided increase in value to the breed in raising the standard in all the seven classes.

The winners of the prize trophy silver trophies were as follows: Mature class, **Rancho de Hare**, owned by J. W. Cline, Redmond, Wash., 17.24 lbs. milk, 80.91 lbs. fat, 4.62 per cent. fat; 4-yr.-old cow, **August Lass**, owned by L. G. Beynham Estate, Whessing, W. Va., 17.84 lbs. milk, 80.91 lbs. fat, 4.62 per cent. fat; 3-yr.-old cow, **Burdette Pearl**, owned by Hugh J. Chisholm, P. O. Chester, N. Y., 17.84 lbs. milk, 64.74 lbs. fat, 3.90 per cent. fat; 3-yr.-old cow, **Jan**, owned by W. J. Schanck, Wrentham, N. Y., 21.93 lbs. milk, 82.65 lbs. fat, 3.92 per cent. fat; 3-yr.-old cow, **Beatrice**, owned by Beatrice, owned by Percival Roberts, Jr., N. Y., 18.53 lbs. milk, 66.0 lbs. fat, 4.14 per cent. fat; 3-yr.-old cow, **Garlaugh Bloomer's Nell**, owned by Percival Roberts, Jr., N. Y., 18.53 lbs. milk, 66.0 lbs. fat, 4.14 per cent. fat.

AYRSHIRE SIRE—READY FOR SERVICE. Pure-bred Ayshire bull, 12 months old, with over 11,000 lbs. of milk in one year and Thistle Champion three-year-old of Canada. **SMITH BROS.**, Noble Farm

TWO BULLS FIT FOR SERVICE. One a son of a 26.70-lb. cow and sire by a son of Evergreen March, who gave 24,100 lbs. milk in one year and sire by a son of the original breeding. **N. O. SAGER**

ROYCVROFT STOCK FARM. It's always a rare pleasure to get into one of our big Canadian herds of Holsteins, where the records run from 15,000 lbs. for two-year-olds up into the thirties per week for many of the mature animals. Such was the pleasure a Farm and Dairy representative took on a short visit to Roycroft Stock Farm, the new home of the late Loo herd at Newmarket.

The splendid well-bred and well-lighted stables at Roycroft are a very fitting place for the herd. But not only is Mr. W. L. Shaw improving and increasing the quality of the herd, but also bringing in much new blood and developing the younger females. There are splendid prospects and a tremendous amount of good material for the Canadian Farmer. For instance, there are eleven yearling daughters of their own herd sire, **Frankie McCormick**, tied Loo, who has been acknowledged by many Holstein breeders in America. Every one of these daughters is broad and deep grown. Every one of them follows the splendid type of their sire, but among the younger cows is **Het Loo**, almost a duplicate of her 25,000 lbs. herd sire. Her April 1916 record in the way of size and capacity and general show ring countenance is the hard to beat three particularly fine mature animals. It is certain that they do well to have a look over. All three of these came from the same sire and dam and they are being prepared for the test during the coming year. All of them I believe, except during February, and we shall anticipate to hear something specially good of them when recorded. This will have an announcement later.

Among the Roycroft herd now one of the best herd sires in Canada, but Mr. Shaw will make a good sire for America. Only a few weeks ago he secured a half interest in that great sire—but the announcement of this will be made by Mr. Shaw in our Dairy and Testers' Watch for it.

TANGLEWYLD AYRSHIRES The Leading R. O. P. Herd Large Cows, Large Tests, Large Records, High Testers, Choice Young Bulls and Bull Calves and a few Cows for sale. **WOODSIDE BROS., R. R. No. 1, HERRINGTOWN, ONT.**

CHEESE MAKER WANTED, with one or two years' experience. Apply to E. C. WILLIAMS, Box 4, Clifford, Ont. Write for particulars.

TWO SONS OF PONTAC HERMES No. 1.—From a good producing half-sister of Lulu Keyes. His grand-dam also closely related to the May Bebo family. Three-quarter light in color and a fine individual, one year old. Price \$125, delivered anywhere in Ontario.

No. 2.—From a 16,000-lb. half-sister of Lulu Keyes. He is a little more black than white, straight and well grown, over 4 years old. Price \$125, delivered anywhere in Ontario.

E. B. MALLORY R. R. No. 3 BELLEVILLE, ONT.

ST. THOMAS, ONT.

TWO BULLS FIT FOR SERVICE. One a son of a 26.70-lb. cow and sire by a son of Evergreen March, who gave 24,100 lbs. milk in one year and sire by a son of the original breeding. **ST. GEORGE, ONT.**

CHERRY LOTS For sale, 12.70 lbs. milk, 23.88 lbs. butter, 4.14 per cent. fat. **ST. GEORGE, ONT.**

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Market Review and Forecast

TORONTO, Jan. 25.—In reviewing dairy conditions in the Canadian West, E. C.ora Hind, the Canadian commercial agricultural writer, has had an exceptionally satisfactory year in the matter of dairy production, both from the standpoint of production and price. Manitoba has by nearly 100 per cent. increased her output of creamery butter, the average price being 41 cents, 600 units a lb. higher than in 1916. The increase in returns from dairy products amounted to \$25,421. Alberta increased her output of very butter output by about 1,000,000 lbs. and nearly doubled the price. The increase in butter prices was four cents and the same for cream for butter and cheese was \$2,775,000, an increase of \$750,000. These figures do not take into consideration the returns for dairy butter, milk or cream. This province holds the record for butter this year. The total value of prices for output for livestock was estimated at \$1,270,000, and of dairy products, including dairy butter, milk and sweet cream, \$4,470,000, a gain of \$25,000. The grand total for dairy products in three provinces is estimated at \$12,725,614.50, an increase of \$1,277 over 1916.

The outstanding feature of the year's work in dairies, stated by Miss Hind, established in the matter of butter, was successful competition in the Montreal market with the famous eastern townships. The Pacific coast provinces were also made to Britain and a permanent trade being established. Alberta had 87 creameries operating during the summer and 25 are operating this winter. The other two provinces also operate some creameries during the winter months. The average price of cheese in Manitoba was 12 1/2 cents, 18 cents, or three cents higher than in 1916, and in Alberta, the Pacific coast four cents higher than for the previous year. The gross amount of money received from agricultural products in the western provinces was \$258,000,000, an increase of \$12,000,000 in 1916.

The annual bank reports show that most lines of industry are feeling the beneficial effect of the prosperity, and is apparently believed in high financial circles, however, the immediate effect of the war there will be a period of acute commercial and industrial depression, accompanied by unemployment, though some financiers believe that this condition will not last long. In agriculture the best prospect seems to be ahead of those who have maintained their herds of breeding stock, as the result of the war will likely be followed by a period of high production of cereal grains with consequent low prices, while the destruction of dairy and beef cattle in Europe is certain to create a scarcity of dairy and animal products, which should mean a continuation of prices at fairly high levels, though possibly not at war levels.

WHEAT.

The amount of wheat inspected and named at Winnipeg for the four months previous to Jan. 1 was about 97,000,000 bushels, or only slightly more than half the amount for the corresponding four months of 1916. The amount of money received, owing to the much higher prices, was only \$14,000,000. A similar condition exists with respect to coarse grains. Rumors of submarine and raider activity, and other influences continue to cause wide fluctuations in the wheat market. Toronto Board of Trade official quotations are: Manitoba wheat, track, bay ports, No. 1 Northern, \$2.08 1/2; No. 2, \$2.08 1/2; No. 3, \$2.08 1/2; No. 4, wheat, \$1.88 1/2; old crop wheat, 4 cents higher; Ontario wheat, winter, new crop, No. 2, according to freight outside, \$1.82 to \$1.84; No. 3, new crop, \$1.80 to \$1.82.

Coarse Grains.

But little change is to be noted in the coarse grain market. Manitoba oats, track bay ports, are quoted as follows: No. 1, C.W. 72c; No. 2, 68c; extra No. 1, feed, 60c; No. 1 feed, 64c; American corn, No. 2, yellow, \$1.05; extra No. 2, 10 days; Ontario oats, according to freight outside, nominal; No. 2, white, 54c to 56c; No. 3, white, 52c to 54c; feed, No. 2, 52c; barley, milling, \$1.39 to \$1.52; nominal; buckwheat, \$1.25 to \$1.20; rye, No. 1, new, \$1.40 to \$1.42. At Montreal, C.W. No. 1, \$1.05; No. 2, \$1.00; No. 3, \$0.95; extra No. 1 feed, 64c; Manitoba feed, \$1.30.

Milk Feeding.

Our lists delivered Montreal freight, shorts, 288; bran, 333; good feed four bag, \$2.70 to \$2.80; Montreal bran, 333; shorts, 336; middlings, 335 to 340; molasses, 345 to 350.

Hay and Straw.

No. 1 track hay, 312; extra No. 2, \$12.50; mixed, \$9 to \$11; straw, car-

lots, 30 to \$3.50. At Montreal, hay, No. 2, carots, 312.

SEEDS.

2. Alamo No. 1, bush, \$10 to \$10.50; No. 2, \$9 to \$9.50; No. 3, \$7.50 to \$8; relected \$4.25 to \$4.50; timothy, \$2.10 to \$2.50; common vetch, \$1.50 to \$2.50; red clover, \$3.50; No. 1, \$8 to \$10; No. 2, \$7 to \$8.

POTATOES AND BEANS.

New brunswick in carlots, \$2.25 to \$2.40; waders, our lot, \$2.10; P. E. Island, \$2 to \$2.10. Beans—green, hand-picked, \$1.25; prime, 85c; Canadian hand-picked, \$1.25; prime, 85c.

EGGS AND POULTRY.

Big prices remain about the same as those quoted last week. Quotations are: New-laid, in cartons, 60 to 72; eggs, cartons, 55c to 60c; storage select, 45c to 46c; storage No. 1, 42c to 43c. Poultry.—Dressed, fighting chickens, lb. 20c to 23c; Turkeys, lb. 15c to 18c; Ducks, lb. 10c to 12c; Geese, lb. 30c to 35c.

DAIRY PRODUCE.

The butter market in form, stocks in store being low. Present prices are likely to be maintained until the cow make clear. The effort is being made to take advantage of the high prices and increase the winter make of butter. From Montreal comes the report that receipts are taking care of about 20 per cent. of the commercial trade. On previous years Australian butter was a factor in the Montreal late winter and spring markets, but this year it is not likely that much of this butter will reach Canada in great quantities. The favorable makes are reported. The export surplus will be absorbed by the British market. Wholesale prices ruling here are: Creamery prints, fresh milk, 37c to 40c; storage, 35c to 37c; creamery solids, 41c to 42c; dairy print; bakery, 31c to 32c; ordinary, 30c to 31c; Evaporated, 21c to 22c. Cheese continues strong with fall makes quoted up to 25c for best quality.

COMING DAIRY STOCK SALES.

Mr. Jas. Motheral, of Drumbo, Ontario, Ont., will sell his complete herd of 25 registered Holsteins on Monday, January 29th. This herd, consisting of 25 registered Holsteins, and all farm stock and implements will be offered without reserve on February 1st, by Mr. J. Chalk, R.R. No. 1, Dunboynne, Elgin Co. The annual winter sale of Holsteins by the Oxford District Holstein Breeding Club, will be held this year on March 28th, at Woodstock. Mr. W. E. Thomson, Woodstock, is the secretary.

Quotations are: New large, 25 1/2c to 26c; butlers, 25c to 26 1/2c; triplets, 25 1/2c to 27c; Shorthorn, 27c to 27 1/2c.

LIVE STOCK.

The feature of the Toronto market was the reaching of new high price levels for hogs. On the off car basis the price was fairly heavy, but packers' agents were so pronounced that there was keen competition among buyers. The result was sharp advances to levels which dealers with many years' experience declare much higher than any they water mark was \$12.25 of cars, so the present price is much above that of previous high marks.

Prices for cattle are about the same as those reported last week. Quotations are about as follows: Steers—choice, heavily, \$9.75 to \$10.25; med. \$9 to \$9.50; butchers, \$8.75 to \$9.25; to good, \$7 to \$7.75; cow, \$8 to \$10; butchers' choice cows, \$7 to \$7.50; med. \$6.50 to \$6.75; cow, \$6 to \$7; calves, \$7.50 to \$8.50; good, \$7 to \$7.50; 900 to 1,000 lbs., \$8 to \$7.25; med. 700 to 800 lbs., \$6 to \$6.40; stockers, 700 to 900 lbs., \$5.25 to \$5.50; cullers, \$4.40 to \$5.25; calves, \$4.10 to \$4.40. Hogs were quoted at good to choice, \$10 to \$10.75; corn to med. \$9 to \$10; springers, \$6.5 to \$7.00; calves, veal, \$10 to \$11.50; corn to med., \$5 to \$10.50; \$5.25 to \$6.

Spring lambs, choice, were quoted at \$12 to \$12.50; culls, \$1 to \$10.50; wethers, light, \$9.50 to \$10; heavy and bucks, \$7.50 to \$10; wethers, \$8.50 to \$9.50. Hogs weighed off cars, \$11.25; fed and unweaned, \$11; weaned's f.o.b. price was \$8 on stags; less \$2 on hogs; less \$1 on hewers; less \$1 on half per cent. gross condemnation.

AVONDALE FARM OFFERINGS.
We have a few young bulls sired by King Pentiac Artie Canada, and Woodcrest Sir Clyde, and from young dams, which we are offering from room for our owning calves. We have a beautiful cow, with over 700 lbs. milk in a 19 lb. daughter of Netherby Queen Jane, with over 700 lbs. Hengerveld Prize, dam's dam has over 24 lbs. at 2 years, \$150.00, because he is black. We have several from high record cows at all prices, including one by our grand, Mrs. Avondale Farm, Brockville, Ont.

HIGH LAWN HOLSTEINS.
We have a few choice bull calves—about four months old, sired by a son of MAY ECHO and three-quarter brother of MAY ECHO SYLVIA. They are out of dams with records up to 19,000 lbs. milk in a year. We have several females due to freshen shortly, and are offering these calves as attractive prices to make room. Write us. It will pay you.
JOSEPH O'REILLY
R. R. NO. 9, PETERBOROUGH.

Sold the Farm
CLEARING SALE
Farm Stock and Implements
33 Registered
Head HOLSTEINS 33 Head
MOSTLY FEMALES
at Dunboynne, Ont., Feb. 1st, 1 p.m.
Having sold my farm, everything will be included in my sale. Twenty cows, either in or coming in, mature animals with records over 100 lbs. butter in 30 days; two-year old heifers with 500 lbs. butter in 1 year.

A Choice
Herd Sirs Netherland Hengerveld King Only 2 Yrs. Old
His dam has 21,666 lbs. milk and 881 lbs. butter in a year—Canadian champion 1909. Sir's two full sisters have butter records of over 1,300 lbs. butter in one year, and up to 27,404 lbs. milk—This stock is good, and intending purchasers should not fail to attend this sale. Buses will leave Aylmer about 1 p.m. on day of sale. Buy your tickets to Aylmer. Parties coming from a distance will be kept at the farm over night if desired.

For further particulars write
J. H. CHALK
R. R. No. 1, DUNBOYNE, ONT.
(Elgi. Co.)

Dispersion Sale 26 Head
— OF —
26 Registered Holsteins
2 Males and 24 females by Public Auction
TUESDAY, JANUARY 30, 1917
at One O'Clock
Everything will be sold without reserve, your catalogue is ready
SCOTT-DAVIDSON, Auctioneer
PARIS, ONT.
JAS. MOTHERAL, DRUMBO, ONT.

Sydney Basic Slag

\$20 a ton may seem a low price for a fertilizer as compared with what you have been paying, and may create the impression that it cannot be of much value. Put away such an idea. Do not be prejudiced. We are spending thousands of dollars in introducing Sydney Basic Slag into Ontario, and since our start in 1913 we have not made one cent on the business, but on the contrary are heavily out of pocket. We are not philanthropists, but we have got the best value in fertilizers on the market, and once our goods are known farmers will be looking for them and we will then begin to make money. Here are the figures of consumption in Ontario since our start:

1913	230 tons
1914	1,028 "
1915	1,642 "
1916	3,108 "

We want you to use a ton this season. Send us your name and let our representative call on you.

The Cross Fertilizer Co.
Limited
Sydney - Nova Scotia



What they all think about Farm and Dairy



Farm and Dairy, Peterboro:
Gentlemen,—Your Christmas Number 64 is a gem for the Dairy Farmer. Each number is ahead of the other. I have put mine on file for future reading, as there is always something new to find in reading it over.
The farmer who has a dairy farm cannot be ahead and do without Farm and Dairy. Its advertisements are always of interest to me as it lets one know what the other fellow is doing.

Hastings County,

Yours, etc.,
D. MacDONALD.

This is one of the many letters we have received regarding Farm and Dairy, and for every letter written us, there are scores of readers who think the same, but do not write us.
This proves the value Farm and Dairy is to every dairy farmer. It also shows how comparatively easy it should be for you to get new readers among the dairy farmers in your district.

Read our offer showing you

What You Can Do About Farm and Dairy

During the past year we have sent real live premiums in the shape of Pure Bred Holstein or Ayrshire Bull Calves. They make the best kind of premium and are very popular with Farm and Dairy agents. We know this because they keep us busy filling orders. Premiums of this kind grow more valuable as the months go by, and are a source of constant revenue to you.

Pure Bred HOLSTEIN Ayrshire Bull Calves

You can get one of these calves, absolutely free of cost to you by sending us only 25 new subscriptions to Farm and Dairy. Take each subscription at the regular price of \$1.00 per year—no more, no less. Just as soon as we receive the names and money from you we will send you the calf.

A good plan is to send us the names of 20 or 40 dairy farmers you know and want to canvass. We will check over the list, indicating thereon those who are subscribers and those who are not, and return it to you. This saves you wasting time calling on men who already get the paper. Also we will send a sample copy of Farm and Dairy to your prospects. This will help you when you call on them for the subscription.

Get Busy To-day

there is a calf here for you. If you want further information do not hesitate to write us. We want to help you to win that calf.

IMPORTANT—On account of the excessive cost of shipping calves to the western provinces we cannot extend this offer to readers living west of North Bay.

FARM AND DAIRY
PETERBORO



A Message of Goodwill--

It has been particularly gratifying to the members of the Ayrshire Breeders' Association to learn of the splendid stand for fair play taken by the Western Ontario Dairyman's Association, when at Woodstock last week they unanimously carried the following resolutions for the Dairy Standards Act:

"That this Association is in sympathy with the plan outlined by the officials of the Dairy Branch of the Ontario Department of Agriculture to stimulate and encourage a grading system for creamery products; also the support of this organization may be counted upon to encourage the methods which may be adopted from time to time by the Agricultural Department to successfully put into operation the new Dairy Standards Act. That this Association appreciated the efforts of the Ontario Government to benefit the dairy interest through the operation of this legislation."

"That this Association believes it would be in the best interests for the successful operation of the Dairy Standards Act if a clause was incorporated in the Act dealing with the payment by test of all milk sold for any purpose, and respectfully suggest that an amendment to the Act be made which will include this provision."

Milk and its products are valued almost solely on their worth as human food. It is only fair and fair then to all that it should be sold for on the basis of this food value, i.e. by test instead of being "pooled" as in the past. By the test, the man who has labored to keep a "good testing herd," whether Holsteins, Jerseys, Ayrshires or dual purpose, will be justly rewarded for his efforts.

AYRSHIRE BLOOD WILL RAISE THE TEST

In improving the quality of your herd you'll find Ayrshires maintain their great reputation as high testers—thriftily and productive. See that your first pure-bred is an Ayrshire. We shall be pleased to send you the names of your nearest Ayrshire breeders. Send for our free booklet, "The Breed for the Dairy."

Canadian Ayrshire Breeders' Association
W. F. STEPHEN, Secretary, Huntingdon, Que.